COURSE SYLLABUS

FLIGHT INSTRUCTOR INSTRUMENT — ADDED RATING

CESSNA FLIGHT TRAINING SYSTEM

Cessna
Flight Training System

Cleared for Instrument Instructing

Flight Instructor—Instrument Training Course—Added Rating

SYLLABUS

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Cleared for Instrument Instructing
Flight Instructor—Instrument Syllabus—Added Rating
Your Path to Becoming a CFII

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FLIGHT INSTRUCTOR–INSTRUMENT–ADDED RATING SYLLABUS REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*
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FLIGHT INSTRUCTOR–INSTRUMENT–ADDED RATING SYLLABUS REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*

Cleared for Instrument Flight Instructing—Added Rating
Cessna Flight Instructor Instrument Syllabus
Your Path to Becoming a CFII

Purpose

You are entering the realm of the most important position in all of aviation, the Flight Instructor. As the trainers, flight instructors hold the destiny of aviation in their hands by preparing new pilots and advancing existing pilots to obtain the knowledge and risk management and flight skills to safely operate in the national airspace system.

Your Cessna Flight Instructor Instrument syllabus lays out the ground and flight training that will prepare you to become a Certificated Flight Instructor Instrument (CFII). Your training will be tracked in the Cessna Flight Training System online *Course Tracking Application* (CTA). Each online Lab, Lesson Group and Lesson has been arranged with the flight lessons (represented by individual training scenarios) to progressively prepare you to teach flying.

The two stages of the *Cessna Flight Instructor Instrument Syllabus* are subdivided into four "phases", each containing multiple knowledge lessons and flight scenarios. Progress checks are located in phases at key points in the course including those marking the end of a stage.

You will use this document as your day-to-day guide for training since it provides all the details for applying the curriculum elements.

Although written to comply with the 14 CFR Part 141 Pilot School Flight Instructor Instrument Certification Course requirements, the *Cessna Flight Instructor Instrument Syllabus* may also be used with a 14 CFR Part 61 flight instructor instrument training curriculum when adjusted for the part 61 requirements.

STEPS FOR ADDING AN INSTRUMENT RATING TO A FLIGHT INSTRUCTOR CERTIFICATE (CFII)

Becoming a Certificated Flight Instructor Instrument is a major milestone in a pilot's career. Your flight school will explain in detail the course enrollment requirements shown below:

- Hold a commercial pilot or airline transport pilot certificate.
- Hold a current flight instructor certificate with ratings appropriate to the aircraft category and class.
- Hold an instrument rating appropriate to the aircraft category and class for instructor privilege sought.
- Hold a current third class medical certificate or meet the conditions and limitations of Pt 61.113(i) [BasicMed].
- Pass knowledge test on aeronautical knowledge appropriate to instructor rating sought.
- Complete the required flight training for the course (see Appendix A).
- Pass a flight instructor instrument practical test.

COURSE ELEMENTS

The Cessna online training

- Provides innovative and interactive learning exercises.

- Is accessible anywhere you have an Internet connection or may be downloaded to a mobile device.
- The unique design of the training program
- Integrates web-based knowledge sessions with flight scenarios.
- Ensures that before every flight you will have the required knowledge to succeed.

You and your instructor will discuss the schedule for your training, and you will know
- When to complete the appropriate web-based knowledge instruction
- What to prepare for each flight scenario.

Upon completion of each flight scenario, you and your instructor will
- Review the elements of the flight scenario and the scenario outcome.
- Compare your performance to the completion standards.
- Independently evaluate the tasks in the flight scenario.
- Discuss and compare the results.
- Discuss the next flight scenario.

Please note that it may take you more than one flight to complete a flight scenario to the established standards.

COURSE STRUCTURE

STAGES
The course is divided into two stages:
- Stage 1: Learning the Instrument Instructor Role
- Stage 2: Becoming an Instrument Instructor

PHASES
Each stage is made up of two phases. There is a total of four phases:

Stage 1: Learning the Instrument Instructor Role
- Phase 1: Performing Instrument Tasks from the Right Seat
- Phase 2: Demonstrating and Explaining Instrument Tasks

Stage 2: Becoming an Instrument Instructor
- Phase 3: Refining Instructional Skills
- Phase 4: Demonstrating Instructional Competence

SCENARIOS
There are multiple flight scenarios within each phase. The completion standards for the scenario tasks in each phase are found in that phase's Phase Proficiency Checklist.

Once all items on the phase proficiency checklist are completed to the level of performance required for that phase, you can then move on to the next phase of training.

You are not required to complete every flight scenario within a phase if you have already demonstrated the standards indicated for that phase, but it is highly recommended that you do so, as the scenarios progress in complexity to give you maximum efficiency in your training. Progress Checks are required scenarios.

PROGRESS/STAGE CHECKS
Each stage has at least one Progress Check at the end of the last phase of each stage which serves as a Stage Check. The progress/stage checks are found:

- Stage 1, phase 2 (Stage Check with Check Instructor)
- Stage 2, phase 4 (Stage Check with Check Instructor)

PHASE SEQUENCE
The four phases are:

1. DEMONSTRATING MANEUVERS FROM THE RIGHT SEAT — Your flight instructor instrument curriculum ground study for Phase 1 reviews and delves further into Flight Instruments, Federal Aviation Regulations and the Aeronautical Information Manual.

Your in-flight scenarios begin with exercising the flight controls and thereafter flying all the scenarios from the instructor's seat (normally the right seat in a side-by-side cockpit). You will also look for the risks involved with maneuvers and formulate strategies to mitigate them.

2. GAINING PROFICIENCY DEMONSTRATING AND EXPLAINING MANEUVERS — For this Phase's ground lessons, you will look more in depth at Navigation, Departure and Arrival Procedure, Holding Patterns, and Instrument Approaches and Charts. You will also begin to plan your instructional flights covering the assigned tasks.

During your in-flight scenarios you will demonstrate all designated maneuvers to the specified standards while simultaneously explaining the elements of each maneuver. You will also start using scenarios for introducing a maneuver to a simulated pilot in training. The last scenario of this phase is the phase progress check that you will fly with another instructor.

3. REFINING INSTRUCTIONAL SKILLS — In this phase your ground study will include Weather, Weather charts, Weather Observations, Forecasts and Advisories.

You will be involved with planning your in-flight scenarios as instructional flights and expanding lesson scenario development to include all maneuvers. In addition, you will continue exercising risk management while analyzing, critiquing, and correcting errors made by your instructor simulating a pilot being trained on the required instrument maneuvers.

4. DEMONSTRATING INSTRUCTIONAL COMPETENCE — Your knowledge study for this phase includes IFR Cross-Country Flying, Flight Planning, an optional Instrument Ground Instructor Lab, as well as concentrated sessions with your instructor in preparation for the practical test.

Your in-flight activities include planning an IFR cross-country, diverting due to weather or a mechanical failure, as well as demonstrating all maneuvers while simultaneously explaining how to fly them, introducing maneuvers to simulated pilots in training, correcting simulated errors, teaching maneuvers appropriate for risk surveillance and mitigation, and demonstrating active instructional level risk awareness, identification and mitigation. You will fly an end-of-course progress check with an appropriately designated instructor.

Since each phase builds on what you have learned before, it is important that you complete the phases in the proper sequence. However, some degree of flexibility is necessary.

- Weather and other factors may make it impractical to conduct a particular flight scenario while another may be possible.
- In this case your instructor, with the approval of the chief instructor, may suggest out-of-phase and out-of-stage scenarios that can be completed with the current conditions.
- If available at your flight school and approved for this course, you may complete all or portions of a flight scenario using an aviation training device, flight training device, or flight simulator.

IMPORTANT: The syllabus does not address your local flight school's safety practices and procedures; review these key items before or after the first flight with your instructor.

PHASES

There are 4 phases of training. Each phase has

- *Required* **Web-based Knowledge Instruction**
- *Suggested* **Flight Scenarios**
- *Required* **Phase Ground Training Checklists**
- *Required* **Phase Proficiency Checklists**

Web-based Knowledge Instruction

- Forms the customer's knowledge foundation to be used for the flight scenarios
- Is directly correlated to the phase
- Is to be completed before the corresponding phase can be considered complete

Flight Scenarios

- Are placed in a suggested order of completion
- Can be flown
    - Once
    - More than once
    - Not at all
- Can be customized for your local training environment
- Can be completed out of phase or stage if approved by the Chief or Assistant Chief Instructor

Phase Ground Training Checklists

- Can be prepared for through study of the web-based curriculum and course library materials
    - Including FAA publications such as the Aviation Instructor's Handbook, Pilot's Handbook of Aeronautical Knowledge and Airplane Flying Handbook, Instrument Flying Handbook, and Instrument Procedures Handbook
    - Recorded as 'Instruction Given', 'Describe' or 'Explain'
        - 'Instruction Given' indicates that your instructor briefed you on the subject
        - 'Describe' indicates that you are able to describe the physical characteristics of the maneuver or knowledge area
        - 'Explain' indicates that you are able to describe the task or knowledge area and understand the underlying concepts, principles and procedures
    - Must be demonstrated to the 'Explain' level to complete the phase

Phase Proficiency Checklists

- Contain tasks that are to be completed to the 'Perform' level in order to complete the phase
- Contain single-pilot resource management that is to be completed to the 'Manage/Decide' level
    - Grading criteria is discussed in detail later in this document
- Contain completion standards for the phase

PROGRESSING THROUGH THE SYLLABUS

A phase is considered complete when all the tasks are completed to the 'Perform' or 'Manage/Decide' level as appropriate for the completion standards given on the Phase Proficiency Checklist.

It is recommended that the order of the suggested scenarios be followed.

- However, with the approval of your Chief or Assistant Chief Instructor you can complete scenarios that are out of the current phase
- This flexibility allows greater efficiency in course of flight training

You do not need to complete all scenarios in a phase in order to complete that particular phase. The scenarios are simply suggested flights to get you to the 'Perform' and 'Manage/Decide' level for the tasks and standards for that phase.

It is more common to repeat the scenarios in order to obtain the desired level of proficiency and safety than to skip them.

If you are able meet all of the phase standards and skip a scenario, you and your instructor must make sure that you meet the hourly training requirements if they are applicable to your approved training course. It is possible that you could finish up the course and have to make up time at the end.

OVERALL SYSTEM USE

The Cessna Flight Instructor Instrument course is designed to provide the most benefit when

- The instructor assigns preparation for the next scenario
    - Web-based study
    - Suggested study materials
    - Scenario planning

- Prior to the next scenario, you
    - Study the assigned materials
    - Perform the necessary scenario planning

- Prior to the flight, the instructor
    - Prints your training package (or downloads to a mobile device) including the
        - Phase Ground Training Checklist
        - Phase Proficiency Checklist
        - Scenario

- During the preflight briefing
    - Your instructor evaluates the applicable items on the Phase Ground Training Checklist
    - You ask any questions you may have and clarify your understanding of the knowledge areas and the upcoming scenario you will fly and brief the instructor on the scenario planning

- During the postflight briefing
    - You independently grade the applicable tasks on the Phase Proficiency Checklist
    - Your instructor independently grades the tasks on the Phase Proficiency Checklist
    - You then discuss the scenario outcome and compare grading
    - The instructor logs the scenario into the Course Tracking Application through a mobile device or a computer at your flight school

FAA INDUSTRY TRAINING STANDARDS (FITS)

This flight training syllabus uses the concepts developed under the FAA Industry Training Standards (FITS) program. FITS incorporates three tenets

- Scenario-based training (SBT)
- Single-pilot resource management (SRM)
- Learner-centered grading (LCG)

Scenario-Based Training (SBT) uses real-world scenarios as the foundation of training. Flight maneuvers are still a vital part of flight training, but the use of real-world scenarios helps to develop a pilot's decision-making skills. The training presents situations and circumstances that pilots face every day as learning experiences.

Single-Pilot Resource Management (SRM) includes the concepts of aeronautical decision making (ADM), risk management (RM), task management (TM), automation management (AM), controlled flight into terrain (CFIT) awareness, and situational awareness (SA). SRM training helps the pilot to accurately assess and manage risk, thereby making logical and timely decisions.

Learner-Centered Grading (LCG) includes two parts: learner self assessment and a detailed debrief by the instructor. The purpose of the self assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self assessment is followed by an in-depth discussion between the instructor and the customer that compares the instructor's assessment to the customer's self assessment.

SCENARIO-BASED TRAINING

The scenario-based approach to training pilots emphasizes the development of critical thinking and flight management skills, rather than focusing solely on traditional maneuver-based skills. The goal of this training philosophy is the accelerated acquisition of higher-level decision-making skills. Such skills are necessary to prevent pilot-induced accidents.

Scenario-based training goals include the development of

- Critical thinking skills
- Aeronautical decision-making skills
- Situational awareness
- Pattern recognition (emergency procedures) and judgment skills
- Automation competence
- Planning and execution skills
- Procedural knowledge
- Psychomotor (hand-eye coordination) skills
- Risk management skills
- Task management skills
- Automation management skills
- Controlled flight into terrain (CFIT) awareness

For scenario-based training to be effective there must be a purpose for the flight and consequences if the flight is not completed as planned.

It is vital that you, the instructor in training, and your instructor communicate the following information well in advance of every training flight:

- Purpose of the flight
- Pressures to complete the flight (real or simulated)
- Risks/hazards associated with the scenario (real or simulated)
- Scenario destination(s)
- Desired outcomes
- Possible in-flight scenario changes or deviations (during later stages of the program)

With the guidance of your instructor, you should plan and fly the scenario as realistically as possible. This means that you will know where you are going and what will transpire during the flight. While the actual flight may deviate from the original plan, this method allows you to be placed in a realistic scenario.

SCENARIO PLANNING
Prior to the flight, you will be briefed on the scenario to be planned. You will plan the scenario; your instructor will help you the first few times. The flight scenario should include

- Simulated real-world reason to go flying
- Route
    - Destination(s)
    - Weather
    - NOTAMs
- Pressures to complete the flight (real or simulated)
- Risks associated with the scenario (real or simulated)
- Possible deviations

Reality is the ultimate learning situation, and scenario-based training attempts to get as close as possible to this ideal. The more realistic the training scenario, the better we learn

- Core safety habits, and
- Decision-making skills that can be applied in the real-world

SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

Single-pilot resource management is defined as the art and science of managing all the resources (both onboard the aircraft and from outside sources) available to a pilot flying in a single-pilot operation (prior to and during flight) to ensure that the successful outcome of the flight is never in doubt.

SRM includes the concepts of

- Task management (TM)
- Automation management (AM)
- Risk management (RM)
- Aeronautical decision making (ADM)
- Situational awareness (SA)
- Controlled flight into terrain (CFIT) awareness

SRM training helps a pilot maintain situational awareness by

- Managing the technology in the aircraft as well as aircraft control and navigation tasks
- Enabling the pilot to accurately assess and manage risk while making accurate and timely decisions
- Helping pilots learn how to gather information, analyze it, and make decisions

In most flight scenarios, there is no one correct answer. Pilots are expected to analyze each situation in light of their

- Experience level
- Personal minimums
- Current physical and mental condition
- Ability to make their own decisions as best as possible

Below are standards for each training concept of SRM:

Performance The training task is:	**Standards** You will:
Task management (TM)	Prioritize and select the most appropriate tasks (or series of tasks) to ensure successful completion of the training scenario.
Automation management (AM)	Program and utilize the most appropriate and useful modes of cockpit automation to ensure successful completion of the training scenario.
Risk management (RM)	Utilize risk management tools to assess and mitigate risk associated with the planned flight both during the preflight planning and in flight.
Aeronautical decision-making (ADM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.
Situational awareness (SA)	Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training scenario.
Controlled flight into terrain (CFIT) awareness	Understand, describe, and apply techniques to avoid CFIT during inadvertent encounters with IMC during VFR flight, periods of reduced visibility, or at night.

LEARNER-CENTERED GRADING

Learner-centered grading includes two parts

- Learner self-assessment
- A detailed debrief by the instructor

The purpose of the self-assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self-assessment is followed by an in-depth discussion between you and your flight instructor that compares your self-assessment to the instructor's assessment.

Pre- and postflight briefings are essential for setting goals. During events and tasks that require high levels of attention, there may be little time for learning as the bulk of your cognitive resources are given to performing the actual task.

INDEPENDENTLY GRADING THE SCENARIO

After the scenario is complete, you and your instructor should independently grade your performance for maneuvers and single-pilot resource management (SRM). Note that any grade that would not apply to the task has been grayed out in this syllabus.

It is very important that enough time is allowed. Simply assigning grades and signing logbooks within a limited period of time will not work with this grading system.

After independently evaluating the *actual scenario outcomes* compared to the *desired outcomes*

- You and your instructor come together to compare and discuss your individual evaluations during the postflight discussion

You and your instructor may disagree on the evaluations.

- This should be used as an opportunity to discuss the scenario further
- The instructor has the final authority in assigning the final grade for the desired outcomes

MANEUVER (TASK) GRADES

- **Describe** – At the completion of the ground training session, the pilot in training will be able to describe the physical characteristics of the task at a rote level.
- **Explain** – At the completion of the ground training session, the pilot in training will be able to describe the task and display an understanding of the underlying concepts, principles, and procedures.
- **Practice** – At the completion of the scenario, the pilot in training will be able to plan and execute the scenario. *Coaching, instruction, and/or assistance from the instructor will correct deviations and errors identified by the instructor.*
- **Perform** – At the completion of the scenario, the pilot in training will be able to perform the activity without assistance from the instructor. *Errors and deviations will be identified and corrected by the customer in an expeditious manner.* At no time will the successful completion of the activity be in doubt. ('Perform' will be used to signify that the pilot is satisfactorily demonstrating proficiency in traditional piloting and systems operation skills.)
- **Not Observed** – Any event not accomplished or required in the scenario.

Example:

- Once the pilot in training can explain the effect of crosswind and speed reduction on rudder effectiveness, they have achieved a level of learning that will allow for meaningful "Practice."
- The "Perform" level is met when the completion standards for the particular scenario or phase are met.

SINGLE-PILOT RESOURCE MANAGEMENT (SRM) GRADES

- **Explain** – At the completion of the ground training session, the pilot in training can verbally identify the risks inherent in the flight scenario.
- **Practice** – The pilot in training can identify, describe, and understand the risks inherent in the scenario. The customer may need to be prompted to identify risks and make decisions.
- **Manage/Decide** - The pilot in training can correctly gather the most important data available both within and outside the cockpit, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. *Instructor intervention is not required for the safe completion of the flight.*
- **Not Observed** – Any event not accomplished or required in the scenario.

  Example:
  - A pilot who is becoming proficient at aeronautical decision making (ADM) and risk management (RM) would be graded first at the "Practice" level.
  - The "Manage/Decide" level is met once a pilot makes decisions on their own, for instance, the decision to go-around without being prompted.

EVERYDAY USE OF FITS CONCEPTS

The PAVE Checklist
Use the PAVE Checklist as an easy way to implement the FITS concepts.

The PAVE checklist is
- A simple way to remember and examine the risk factors before you fly, and
- Can also help you manage the specific risks associated with taking off and landing

The PAVE checklist puts risk factors into four categories:
Pilot
Aircraft
en**V**ironment
External pressures

The pilot. Are you fatigued? When was the last time you were flying in the weather conditions that you will encounter? What are your personal minimums?

The aircraft. Are you familiar with the aircraft? Its avionics? Is it airworthy? What is the density altitude? How does that affect your climb rate? What is your maximum crosswind component?

The environment. Are the temperature and dew point close? Are you familiar with the area and its topography? Are there any NOTAMs?

External pressures. Are others influencing the flight? Do you have people waiting for you at the airport?

KNOWLEDGE CONTENT

WEB-BASED KNOWLEDGE INSTRUCTION

The web-based knowledge instruction should be completed before beginning the flight scenarios in each corresponding phase; you can work ahead as far in the course as you like at your discretion. However, the course is designed so that the web-based knowledge instruction corresponds to the flight scenarios within a phase.

If you have an extended time lapse between studying the web-based knowledge instruction and flying the companion scenario, you will find it very helpful to take some time to review your last knowledge sessions just before you fly the associated scenario.

You complete the web-based knowledge instruction satisfactorily by answering all the questions correctly. Your instructor will

- Review your results before you fly
- Answer any questions you may have

KNOWLEDGE TEST

Cessna's online Flight Instructor Instrument course includes a Question Review & Test Prep feature which

- Contains examples of FAA-style test questions for the Flight Instructor Instrument Airplane (FII) knowledge tests
- Provides the answers and explanations of the correct and incorrect answer choices
- Prepares you to take your flight school's practice test and the FAA knowledge test

Upon completing Phase 2, you will want to prepare for the FAA Flight Instructor Instrument Airplane (FII) airman knowledge test. As a part of your preparation, your flight school will likely want you to take a practice graded test as a part of their course. The flight school test

- Has questions covering the required FAA knowledge areas
- Counts as your flight school's final exam for the course
- Is taken and proctored at your flight school using the randomly generated exam feature of the Question Review in your course by selecting
    - Practice Exams
    - Randomly Generated Exam
    - Start New, and
    - If previous random exams taken, select OK to overwrite previous results

When you have completed all the questions in your flight school's knowledge test

- Select "Finish / Suspend"
- Select "Finish", and then
- Your proctor will
    - Select View Exam Results
    - Print the Exam Results Summary, and
    - Select View Exam Detail and note any question not answered correctly

When you have finished the test, your instructor will

- Review the results with you.
- Assign appropriate areas for review if necessary

After taking the flight school knowledge test you should then take the FAA knowledge tests as soon as possible, as the information will be fresh in your memory.

FLIGHT SCENARIOS

PREFLIGHT BRIEFING

Before each flight scenario you and your instructor will review the scenario objectives to make sure you both understand what you will be doing during the lesson.

- Use this opportunity to ask any questions.
- Make sure you understand what is expected of you
- You will need a view-limiting device such as a hood or view-restricting glasses for a scenario having (IR—instrument reference) associated with any task

POSTFLIGHT DISCUSSION AND EVALUATION

After each flight, you and your instructor will

- Review your flight and evaluate your performance independently
- Compare and discuss your self-evaluation with his or her evaluation

Your instructor will make recommendations to help you in your learning. Make sure you ask questions about any area that is not clear.

You will then complete your flight training record based on the completion standards for the phase. Any tasks requiring additional practice to meet the phase completion standards will be carried over to the next flight scenario.

You may expect at least one-half hour for preflight and postflight briefings for each scenario.

PROGRESS CHECKS

Progress checks are designed to ensure that you progress at the appropriate level of proficiency to move on to the next level. Normally, the Chief Instructor, Assistant Chief Instructor or an assigned instructor will fly with you.

Progress checks are nothing to get nervous about; they are to ensure the completeness of your training. You will find that flying with another instructor often provides fresh insight and new techniques.

REQUIRED AERONAUTICAL KNOWLEDGE AREAS

The Federal Aviation Regulations, 14 CFR Parts 61 and 141, specify aeronautical knowledge areas that must be covered in the ground training for a Flight Instructor Instrument Course. All required areas are covered in this course, but they are distributed throughout the curriculum for subject continuity and logical development. The Fundamentals of Instructing are required for an initial Flight Instructor Certificate but are not included in this course for adding an Instrument Rating to an existing CFI certificate. You will find the remaining required topics included in lessons listed as follows:

(1) Applicable Federal Aviation Regulations for IFR flight operations

PHASE 1; 1.2.1 Airspace System
- Class G Airspace
- Class E Airspace
- Class D Airspace
- Class C Airspace
- Class B Airspace
- Class A Airspace

PHASE 1; 1.2.2 IFR Requirements - Pilots
- Instrument Rating Requirements
- Recent IFR Experience
- Logging IFR Time

PHASE 1; 1.2.3 Preflight Requirements
- Preflight Action
- Alternate Airport and Fuel Requirements
- Alternate Airport Weather
- Required Equipment for Flying IFR

PHASE 1; 1.2.4 IFR Requirements – Equipment Checks
- Static System and Transponder Tests
- Ground VOR Checks Using a VOT
- VOR Ground Checkpoints
- Airborne VOR Checks
- Dual VOR Checks
- Recording VOR Checks

PHASE 1; 1.2.5 Flight Operations
- Using Portable Electronic Devices
- Oxygen
- Emergencies
- Communications Failure
- IFR Compulsory Reports
- Direct Route Reporting Points
- NTSB and Accident Reporting

(2) Appropriate information in the “Aeronautical Information Manual”

PHASE 1; 1.3.1 ATC Clearances
- Visual Approach
- Contact Approach
- Cruise Clearance
- VFR-On-Top Clearance
- VFR Weather Minimums
- Special VFR Weather Minimums

PHASE 1; 1.3.2 More ATC Clearances
- Clearance to VFR-On-Top
- VFR Climb
- Practice Approaches in VFR Conditions
- Resume Own Navigation
- Maintain XXX Knots
- Readback of Clearances and Instructions
- Clearances and Instructions

PHASE 1; 1.3.3 Airport Operations and Traffic Avoidance
- Radar Service
- Traffic Callouts by Positions of the Clock
- Airports without Control Towers
- Responsibility for Avoiding Other Aircraft
- Expected Climb and Descent Rate
- Maintaining the Airway Centerline
- Best Visual Scan Technique
- Land And Hold Short (LAHSO)
- Wake Turbulence
- Hydroplaning

PHASE 1; 1.3.4 Runway and Airport Environment
- Runway Markings and Lights
- 2-Bar VASI
- 3-Bar VASI
- PAPI
- Airport Signs
- Signs and Markings for Avoiding Runway Incursions

PHASE 1; 1.3.5 Flight Physiology
- Alcohol and Pilot Fatigue
- Spatial Disorientation and Illusions
- Hypoxia
- Hyperventilation
- Night Flying and Landing Illusions

(3) Air traffic control system and procedures for instrument flight operations

PHASE 2; 2.2.1 Departure Procedures
- ODP and SID Departure Procedures
- DP Frequencies
- Climb Rates and Gradients
- Climb Via SID
- Other Types of IFR Departures

PHASE 2; 2.2.2 Arrival Procedures
- STAR Arrival Procedures
- Descending on a STAR
- Descend Via a STAR

PHASE 2; 2.3.1 Holding Patterns
- Holding Instructions
- Holding Pattern Entries
- Holding at a DME Fix
- Holding at a VOR with an HSI
- Holding Pattern Speeds
- Holding Pattern Timing
- Holding with Advanced Avionics

PHASE 1; 1.2.5 Flight Operations
- Using Portable Electronic Devices
- Oxygen
- Emergencies
- Communications Failure
- IFR Compulsory Reports
- Direct Route Reporting Points
- NTSB and Accident Reporting

PHASE 1; 1.3.1 ATC Clearances
- Visual Approach
- Contact Approach
- Cruise Clearance
- VFR-On-Top Clearance
- VFR Weather Minimums
- Special VFR Weather Minimums

PHASE 1; 1.3.2 More ATC Clearances
- Clearance to VFR-On-Top
- VFR Climb
- Practice Approaches in VFR Conditions
- Resume Own Navigation
- Maintain XXX Knots
- Readback of Clearances and Instructions
- Clearances and Instructions

(4) IFR navigation and approaches by use of navigation systems

PHASE 2; 2.1.1 Radio Navigation Aids
- Ensuring a VOR or DME is Working
- Using VORs
- Knowing Where You Are Regarding a VOR
- Finding Intersections with VOR-LOC-DME

PHASE 2; 2.1.2 Radio Navigation Instruments
- How to Use an HSI
- HSI with a VOR
- HSI with a LOC
- LOC and Glideslope Displacement
- DME Error
- DME Arcs

PHASE 4; 4.1.1 Global Positioning System
- Global Positioning System (GPS)
- WAAS and Non-WAAS GPS
- Technically Advanced Aircraft

PHASE 4; 4.1.5 VOR Navigation Limitations
- VOR Signal Limitations
- VOR Usable Distances and Altitudes

PHASE 2; 2.4.3 Instrument Landing System
- ILS Components
- Compass Locators

PHASE 2; 2.4.4 Profile View
- Using the Glideslope
- Calculating Rate of Descent

PHASE 2; 2.4.8 Additional Localizer Type Approaches
- Parallel Approaches
- Back Course Approaches
- LDA and SDF Approaches

(5) Use of IFR en route and instrument approach procedure charts

PHASE 2; 2.4.1 Approach Chart Format
- Instrument Approach Titles
- Format Overview and Radio Frequencies
- Minimum Safe Altitudes
- Initial Approach Fixes
- Published Altitudes

PHASE 4; 4.1.2 Enroute Charts
- Airspace Depiction
- Special Use Airspace
- Airways
- Ways to Identify an Intersection
- VOR Changeover Point
- Airport Information on the Enroute Chart
- Localizer Symbols

PHASE 4; 4.1.3 Airway Altitudes
- Minimum Enroute Altitude (MEA) and Maximum Authorized Altitude (MAA)
- Minimum Obstruction Clearance Altitude
- Minimum Crossing Altitude
- Minimum Reception Altitude

PHASE 2; 2.4.5 Minimums
- Aircraft Approach Categories
- Straight-In Minimums with Glideslope
- Straight-In Minimums without Glideslope
- Circling Minimums
- Stepdown Fixes
- Runway Visual Range

PHASE 2; 2.4.6 Missed Approach
- Missed Approach Point with Glideslope
- Missed Approach Point without Glideslope
- Executing a Missed Approach

PHASE 2; 2.4.7 Airport Sketch
- Touchdown Zone Elevation and Displaced Thresholds
- Lighting

PHASE 2; 2.4.9 Approach Chart Information and Notes
- Required Equipment for Approach
- Non-Standard Alternate Minimums
- Non-Standard Takeoff Minimums
- Notes on Approach Charts - Text
- Notes on Approach Charts - Symbols

(6) Procurement and use of aviation weather reports and forecasts, and the elements of forecasting weather trends on the basis of that information and personal observation of weather conditions

Phase 3; 3.1.1 What Makes Weather?
- Air Masses and Stability
- High Altitude Flying
- Stable Air
- Temperature Inversions
- Unstable Air
- Wind Circulation
- Fronts

PHASE 3; 3.1.6 Airport Weather Observations and Forecasts
- Surface Observations
- TAF - Format
- TAF - From Grouping
- TAF - Becoming Grouping
- TAF - Winds, Sky Cover, and Significant Weather
- TAF - Wind Shear

PHASE 3; 3.1.7 Wide Area Weather Forecasts and Reports
- Graphical Forecasts for Aviation
- PIREPs and In-Flight Weather Advisories
- Winds and Temperature Aloft Forecasts
- Surface Analysis Charts
- Low-Level Significant Weather Prog Chart
- High-Level Significant Weather Prog Chart

PHASE 3; 3.1.8 Weather Hazard Advisories
- AIRMETs and SIGMETs
- Aviation Watch Notification Messages
- Convective Outlook Charts

(7) Safe and efficient operation of aircraft under instrument flight rules and conditions

PHASE 1; 1.3.5 Flight Physiology
- Alcohol and Pilot Fatigue
- Spatial Disorientation and Illusions
- Hypoxia
- Hyperventilation
- Night Flying and Landing Illusions

PHASE 1; 1.1.6 Flight by Reference to Instruments
- Control and Performance Method
- Primary and Supporting Method
- Primary and Supporting Method - Climbs and Descents
- Interpreting Flight Attitudes
- Recovery from Unusual Attitudes

(8) Recognition of critical weather situations and windshear avoidance

Phase 3; 3.1.2 Clouds and Moisture in The Air
- Types of Clouds
- Water Vapor
- Fog

PHASE 3; 3.1.3 Icing
- Structural Icing
- Ground Contamination
- Flight into Known Icing Conditions
- Reporting Icing
- Flying in Icing Conditions
- Using the Autopilot in Icing
- Frost, Freezing Rain, and Wet Snow

PHASE 3; 3.1.4 Thunderstorms
- How Thunderstorms Form
- Thunderstorm Stages
- Thunderstorm Features
- Avoiding Thunderstorms

PHASE 3; 3.1.5 Wind Shear and Microbursts
- Wind Shear
- Microbursts

(9) Aeronautical decision making and judgment; and

PHASE 4; 4.1.6 Risk Management and ADM
- Identifying Risk
- Assessing and Mitigating Risks
- Risk Management and Hazardous Attitudes
- Aeronautical Decision Making

(10) Crew resource management, to include crew communication and coordination.

PHASE 4; 4.1.6 Risk Management and ADM
- Crew Resource Management & Single-Pilot Resource Management

CREDIT FOR PREVIOUS TRAINING (WHEN ENROLLING INTO PART 141 CURRICULUM)
According to FAR 141.77(c), when you transfer from one FAA-approved school to another approved school, course credits you earned in your previous course of training may be credited for part of your training by your new school.

- Your new school may determine the amount of credit you are allowed by a knowledge test and a flight proficiency test
- Credit for aeronautical knowledge instruction may be determined by a knowledge test alone
- Maximum credit allowed is 50% of the curriculum requirements of your new school

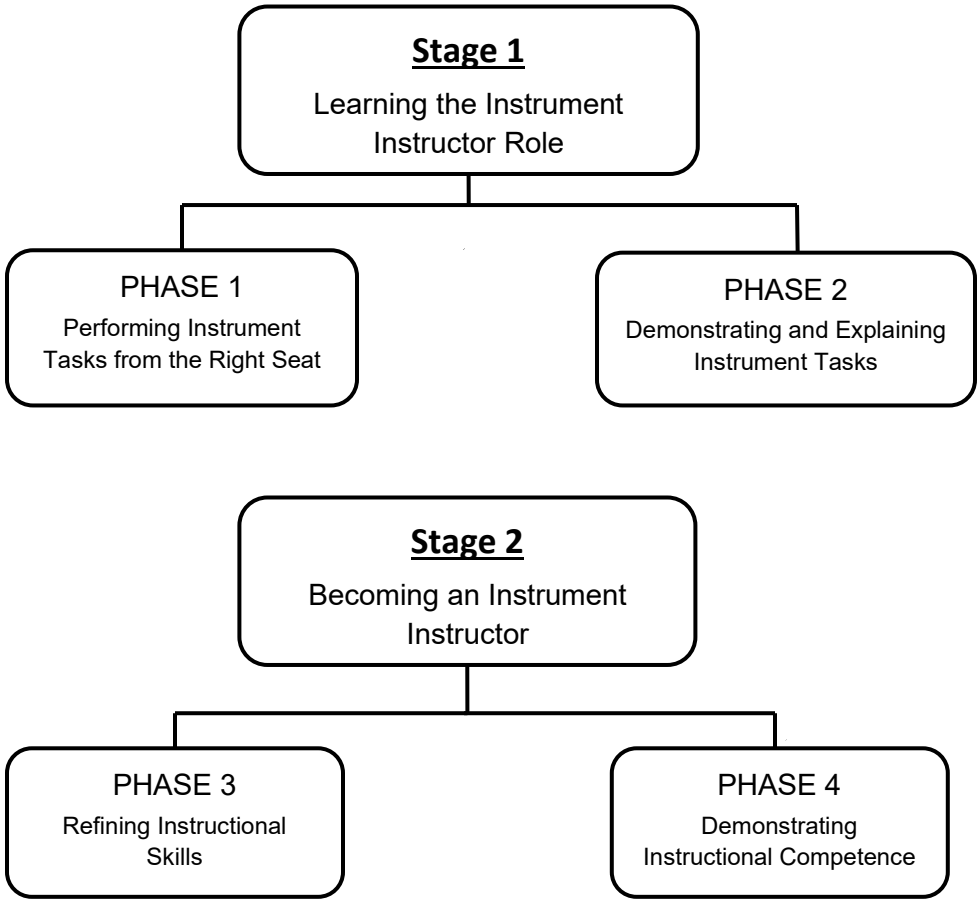
If you transfer from other than an FAA-approved school, you may receive credit for the knowledge and flight experience. Up to a maximum of 25% of the curriculum requirements of the course to which you are transferring to may be credited.

CREDIT FOR PREVIOUS TRAINING (WHEN ENROLLING INTO PART 61 CURRICULUM)
If you are enrolling into a Part 61 course, all flight training logged, from an authorized instructor, applies to the minimum required flight time under Part 61. Your new flight school

- Will evaluate your flight proficiency and knowledge in all required areas of operation and aeronautical knowledge
- Determine the appropriate starting point in the syllabus to continue your training

GUARANTEE OF QUALITY
This multimedia online pilot training system is available through authorized flight schools. It is structured so that you receive the highest quality pilot training at any flight school throughout the world using the Cessna Flight Training System.

SYLLABUS STRUCTURE



STAGE 1 – ***Learning the Instrument Instructor Role*** (2P)

Stage Objectives:

a. Master instrument flight control at instructor's seat position
b. Perform Instrument Rating tasks to standards
c. Integrate explanation of how an instrument maneuver is performed while demonstrating it
d. Incorporate maneuvers into scenarios
e. Explain risks involved with each maneuver and describe methods of mitigating them

Each phase contains **Web-based Knowledge Instruction**

- The web-based knowledge instruction for the phase should be completed prior to starting the flight scenarios to ensure fundamental knowledge before the flight.

Each phase contains multiple **Flight Scenarios** that can be

- Customized for your local training environment
- Repeated, or
- Omitted if all items in the Phase Proficiency Checklist are completed to standard.

At the end of each Phase are the **Ground Training Checklist** and **Phase Proficiency Checklist**

- All items in the checklist must be completed to the appropriate standard listed before the Phase is considered complete

PHASE 1 – ***Performing Instrument Tasks from the Right Seat*** (3S)

Phase Objectives:

a. Introduce instrument flight control from instructor's seat position
b. Introduce and demonstrate all tasks
c. Incorporate risk management considerations for each maneuver
d. Introduce Postflight Procedures for IFR flight.

Web-based KNOWLEDGE

FLIGHT INSTRUMENTS
FEDERAL AVIATION REGULATIONS
AERONAUTICAL INFORMATION MANUAL

1.1 FLIGHT INSTRUMENTS

Objectives: You will reacquaint yourself with the details, operating concepts and anomalies of the flight instruments. You will also review aircraft control by instrument reference and recovery from unusual flight attitudes. In addition, you will revisit how electronic and standby flight instruments work along with their associated systems.

1.1.1 Instrument Basics

.1 Fundamental Skills
.2 Altitudes
.3 How an Aircraft Turns
.4 Rates of Turn

1.1.2 Pitot Static Instruments

.1 Pitot-Static Instruments
.2 Pitot-Static System Errors
.3 Altimeter Settings
.4 Altimeter Operation for IFR
.5 Altimeter Errors

1.1.3 Magnetic Compass

.1 How a Magnetic Compass Works
.2 Compass Turning Errors

1.1.4 Gyro Instruments

.1 Turn and Slip Indicator
.2 Turn Coordinator
.3 Heading Indicator
.4 Attitude Indicator

1.1.5 Digital Instruments

.1 Digital Flight Instruments
.2 Pitot-Static and Gyroscopic Digital Instruments

1.1.6 Flight by Reference to Instruments

.1 Control and Performance Method
.2 Primary and Supporting Method
.3 Primary and Supporting Method - Climbs and Descents
.4 Interpreting Flight Attitudes
.5 Recovery from Unusual Attitudes

1.2 FEDERAL AVIATION REGULATIONS

Objectives: You will delve into the regulations to the extent you will easily be able to interpret and explain them to the pilots you will train.

1.2.1 Airspace System

.1 Class G Airspace
.2 Class E Airspace
.3 Class D Airspace
.4 Class C Airspace
.5 Class B Airspace
.6 Class A Airspace

1.2.2 IFR Requirements - Pilots

.1 Instrument Rating Requirements
.2 Recent IFR Experience
.3 Logging IFR Time

1.2.3 Preflight Requirements

.1 Preflight Action
.2 Alternate Airport and Fuel Requirements
.3 Alternate Airport Weather
.4 Required Equipment for Flying IFR

1.2.4 IFR Requirements – Equipment Checks

.1 Static System and Transponder Tests
.2 Ground VOR Checks Using a VOT
.3 VOR Ground Checkpoints
.4 Airborne VOR Checks
.5 Dual VOR Checks
.6 Recording VOR Checks

1.2.5 Flight Operations

.1 Using Portable Electronic Devices
.2 Oxygen
.3 Emergencies
.4 Communications Failure
.5 IFR Compulsory Reports
.6 Direct Route Reporting Points
.7 NTSB and Accident Reporting

1.3 AERONAUTICAL INFORMATION MANUAL

Objectives: You will be able to interpret and explain the instrument related parts of the AIM to the pilots you will train.

1.3.1 ATC Clearances

.1 Visual Approach
.2 Contact Approach
.3 Cruise Clearance
.4 VFR-On-Top Clearance
.5 VFR Weather Minimums
.6 Special VFR Weather Minimums

1.3.2 More ATC Clearances

.1 Clearance to VFR-On-Top
.2 VFR Climb
.3 Practice Approaches in VFR Conditions
.4 Resume Own Navigation
.5 Maintain XXX Knots
.6 Readback of Clearances and Instructions
.7 Clearances and Instructions

1.3.3 Airport Operations and Traffic Avoidance

.1 Radar Service
.2 Traffic Callouts by Positions of the Clock
.3 Airports without Control Towers
.4 Responsibility for Avoiding Other Aircraft
.5 Expected Climb and Descent Rate
.6 Maintaining the Airway Centerline
.7 Best Visual Scan Technique
.8 Land And Hold Short (LAHSO)
.9 Wake Turbulence
.10 Hydroplaning

1.3.4 Runway and Airport Environment

.1 Runway Markings and Lights
.2 2-Bar VASI
.3 3-Bar VASI
.4 PAPI
.5 Airport Signs
.6 Signs and Markings for Avoiding Runway Incursions

1.3.5 Flight Physiology

.1 Alcohol and Pilot Fatigue
.2 Spatial Disorientation and Illusions
.3 Hypoxia
.4 Hyperventilation
.5 Night Flying and Landing Illusions

FLIGHT SCENARIOS

LEARNING CONTROL BY INSTRUMENT REFERENCE FROM THE OTHER SEAT
DEMONSTRATING NAVIGATION AND INSTRUMENT MANEUVERS FROM INSTRUCTOR'S SEAT
DEMONSTRATING INSTRUMENT APPROACHES FROM INSTRUCTOR'S SEAT

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Learning Control by Instrument Reference from the Other Seat (1-1)

Objective:
Introduce performing flight tasks from instructor's control position
Identify task elements that may be difficult to perform from the instructor's control position
Recover from unusual flight attitudes solely by reference to the instruments
Gain understanding of the airplane position relative to the runway during an instrument approach by performing the procedure using visual reference

Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment

Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic

How to get there:
Electronic navigation, vectors and/or clearance

Planned deviations:
None

Planned malfunctions:
As specified by tasks

Risks (real or simulated):
Note unfamiliar visual sight picture
Maintain heightened awareness that flight/engine controls are in different hands
Observe parallax or obscured flight/engine instruments

Preflight Discussion

Note: All in-flight tasks will be performed using instrument reference unless labeled "(visual)"

New this scenario:
Risk Management
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
Preflight Inspection
Cockpit Management
Checklist Usage
Perform an Instrument Cockpit Check
Positive Exchange of Flight Controls
Taxiing
Collision Avoidance (visually and in response to ATC traffic calls)
Basic Instrument Flight Maneuvers
- Pitch and Power Settings Required for Basic Instrument Maneuvers
- Straight-and-Level Flight
- Change of Airspeed in Straight-and-Level and Level Turning Flight
- Standard Rate Level Turns

Basic Instrument Flight Maneuvers (Continued)
- Timed Turns
- Compass Turns
- Steep Turns
- Constant Airspeed Climbs and Descents (including turns)
- Constant Rate Climbs and Descents (initial focus on rate and then add constant airspeed)
- Level-offs
- Recovery from Unusual Flight Attitudes

Slow Flight (flaps up)
Stall Recognition and Recovery
Navigation System Orientation
Intercepting and Tracking Navigational Courses
Precision Approach (visual)
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

SCENARIO 2: Demonstrating Navigation and Instrument Maneuvers from Instructor's Seat (1-2)

Objective:
Gain confidence in performing flight tasks from instructor's control position
Add more Instrument Pilot tasks.
Recognize primary flight instrument failures and control the aircraft using standby instruments.
Gain understanding of the airplane position relative to the runway during an instrument approach by performing the procedure using visual reference
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Identify risks inherent while instructing each maneuver and appropriate mitigation

Preflight Discussion

Note: All in-flight tasks will be performed using instrument reference unless labeled "(visual)"

New this scenario:
Obtain a Weather Briefing
Filing an IFR Flight Plan
Obtaining an IFR Clearance
Compliance with ATC clearance(s)
Departure Procedure (DP/ODP/Vector)
DME Arcs
Holding Procedures
Loss of Primary Flight Instruments
Basic Instrument Flight Maneuvers with Partial Panel
- Pitch and Power Settings Required for Basic Instrument Maneuvers
- Straight-and-Level Flight
- Change of Airspeed in Straight-and-Level and Level Turning Flight

Basic Instrument Flight Maneuvers with Partial Panel (Continued)
- Standard Rate Level Turns
- Timed Turns
- Compass Turns
- Steep Turns
- Constant Airspeed Climbs and Descents
- Constant Rate Climbs and Descents (initial focus on rate and then add constant airspeed)
- Level-offs
- Recovery from Unusual Flight Attitudes

Maneuvering During Slow Flight (IR)
Simulated Engine Failure
Nonprecision Approach (visual)

Improving your skills:
Risk Management
Taxiing
Perform an Instrument Cockpit Check
Basic Instrument Flight Maneuvers (1 or more chosen by instructor)
Intercepting and Tracking Navigational Courses
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures
Postflight Discussion

SCENARIO 3: Demonstrating Instrument Approaches from Instructor's Seat (1-3)

Objective:
Instructor applicant will demonstrate each approach
Meet/exceed Instrument Rating standards
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Identify risks inherent while instructing each maneuver and appropriate mitigation

Preflight Discussion

Note: All in-flight tasks will be performed using instrument reference unless labeled "(visual)"

New this scenario:
Situational Awareness
Task Management
Controlled Flight into Terrain Awareness
Automation Management
Precision Approach
Nonprecision Approach
Missed Approach
Use of Autopilot During an Instrument Approach
Landing from a Straight-in Approach

Improving your skills:
Risk Management
Obtain a Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
File an IFR Flight Plan
Perform an Instrument Cockpit Check
Obtaining an IFR Clearance
Compliance with ATC Clearance(s)
Departure Procedure (DP/ODP/Vector)
Basic Instrument Flight Maneuvers (1 or more chosen by instructor)
Intercepting and Tracking Navigational Courses
Holding Procedures
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

Phase 1 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
The Learning Process			
Transfer of Learning			
Flight Instructor characteristics and responsibilities			
Aircraft Flight Instruments			
Aircraft Navigation Equipment			
Instrument cockpit check			
Intercepting and tracking navigational systems and DME Arcs			
Precision Approaches			
Nonprecision Approaches			
Missed Approach			
Landing from a straight-in approach			

Phase 1 Proficiency Checklist

***All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Preflight procedures			
Weather briefing and/or acceptable weather sources *Knows FAA-approved weather resources and proper format to request an IFR weather briefing*			
Evaluating weather information *Can accurately evaluate weather data from an FAA-approved source*			
Filing an IFR flight plan *Knows and uses the appropriate format to file an IFR flight plan*			
Takeoff and landing data *Accurately calculates the required takeoff and landing distances*			
Weight and balance *Determines that the flight will be conducted within weight and balance limitations*			
Charts *Has current aeronautical charts and publications*			

Phase 1 Proficiency Checklist *continued*

Preflight inspection *Can perform a safe preflight inspection without instructor assistance*			
Cockpit management *Organizes the cockpit, has easy access to the checklist and utilizes items such as a kneeboard, paper and pen/pencil to record information*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Instrument cockpit check *Performs an instrument cockpit check to ensure all required items are in working order prior to flight*			
Taxiing *Runway incursion procedures records taxi instructions, airport diagram, full attention to taxiing*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has control of the airplane*			
Obtain IFR clearance *Knows how to contact ATC to receive an IFR clearance*			
In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Uses resources to ensure collision avoidance and responds to ATC traffic calls*			
Compliance with ATC clearances *Complies with clearances as necessary maintaining altitude ±100 feet and heading ±10 degrees*			
Basic Instrument Maneuvers			
Pitch and power settings required for basic instrument maneuvers (IR) *Knows and uses appropriate pitch and power settings*			
Straight-and-level flight (IR) *Smooth, coordinated, effective use of flight controls* *Maintains Hdg ±5°, Alt ±100 ft*			
Airspeed changes in level flight (IR) *Adjusts pitch and power as necessary to adjust speed and trims as appropriate to maintain level flight*			
Standard-rate level turns to headings (IR) *Uses instrumentation to assist in achieving standard rate turns during simulated or actual IFR* *Maintains Hdg ±5°, Alt ±100 ft*			
Constant airspeed climbs and descents (IR) *Utilizes a constant power setting and uses pitch to control airspeed. Coordinated controls trimmed* *Maintains Hdg ±10°, A/S ±5 kt, level off Alt ±50 ft*			
Constant rate climbs and descents (IR) *Utilizes a constant power setting and uses pitch to control vertical speed. Coordinated controls trimmed,* *Maintains Hdg ±10°, VSI ± 100 fpm, level off Alt ±50 ft*			
Constant rate climbs and descents with constant airspeed (IR) *Uses power setting and pitch to control desired vertical speed and airspeed* *Maintains Hdg ±10°, A/S ±5 kt, VSI ± 100 fpm, level off Alt ±50 ft*			
Turning climbs and descents (IR) *Uses proper rudder/control wheel inputs to maintain coordinated flight and uses standard rate*			
Level-offs (IR) *Sets pitch, applies power as appropriate, and then trims as appropriate*			
Compass turns to magnetic headings (IR) *Displays understanding of compass dip errors* *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			
Timed turns to magnetic headings (IR) *Displays understanding of timed standard rate turns* *Maintains ±10° bank, ±100 feet altitude and rolls out ±10° to assigned heading*			
Steep turns (IR) *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			

Phase 1 Proficiency Checklist *continued*

Slow flight (flaps up) (IR) *Maintains ±150 feet altitude, ±15° heading and ±10° bank*			
Recovery from unusual flight attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Navigation			
Departure procedure (IR) Departs airport using appropriate DP, ODP or vector to assigned route and conforms to procedure restrictions, courses, and altitudes			
Navigation system orientation (IR) *Uses installed navigation systems to establish/maintain situational awareness*			
Intercepting and tracking navigational course (IR) *Intercepts and tracks courses maintaining altitude ±100 feet, headings ±10 degrees, airspeed ±10 kts, and course within ¾ scale CDI deflection or ±10 degrees on RMI*			
DME arc (IR) *Intercepts and maintains the DME arc ±1 nautical mile*			
Holding Procedures			
Holding procedures (IR) *Uses the appropriate entry and proper corrections to become established, makes all required ATC reports, and can accurately fly a holding pattern*			
Instrument Approaches			
Precision approach (Visual) *No more than 3/4 scale deflection, continues to the missed approach point*			
Precision approach (IR) *No more than 3/4 scale deflection, continues to the missed approach point*			
Nonprecision approach Visual) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (IR) *Initiates the missed approach promptly when the required visual references are not acquired by the MAP and conforms to the published or assigned alternate procedure*			
Use of autopilot during an instrument approach (IR) *If equipped, uses the autopilot to fly an instrument approach*			
Landing from a straight in approach *Maintains a safe and stable approach to landing from the MDA or DA*			
Emergency operations			
Maneuvering during slow flight (IR) *Recognizes the change in control pressures at lower than normal speeds and makes proper corrections to accelerate back to normal operating speeds* *Entry alt so completed ≥ 1,500 ft AGL, Alt ±100 ft, Hdg ±10°, bank ±5° (if turn), A/S + 5/-0 kt*			
Stall recognition and recovery (IR) *Identifies an impending stall condition and makes proper corrections prior to the onset of a stall* *Entry alt so completed ≥ 1,500 ft AGL,Hdg ±10°, bank ±5° (if turn)*			
Engine failure in IMC conditions (IR) *Identifies an engine failure, completes required checklists, and notifies ATC*			
Loss of primary flight instruments (IR) *Recognizes the loss of a primary flight instrument indicator and safely controls the airplane without use of primary instruments, reports failure to ATC as necessary*			
After landing ground operations			
Closes IFR flight plan *Properly closes an IFR flight plan*			
Post-landing taxi and parking *Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area*			

Phase 1 Proficiency Checklist *continued*

Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight procedures *Secures aircraft and completes appropriate checklists and postflight inspection*			

Phase 1 completion standards:

You have completed Phase 1 when you

- Review your home study results with your instructor
- Show ability to confidently control the aircraft from the instructor's seat
- Demonstrate all instrument maneuver elements from the instructor's seat
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks

INSTRUCTOR NOTES:

PHASE 2 –***Demonstrating and Explaining Instrument Tasks*** (4S)

Phase Objectives:

a. Simultaneously explain all instrument maneuvers while performing them
b. Incorporate risk management considerations for each maneuver
c. Demonstrate all maneuvers to instrument rating standards
d. Introduce planning instructional flights
e. Introduce using scenarios for maneuvers

Web-based KNOWLEDGE

NAVIGATION
DEPARTURE AND ARRIVAL PROCEDURES
HOLDING PATTERNS
INSTRUMENT APPROACHES

2.1 NAVIGATION

Objectives: You will gain a greater understanding of how to navigate by using a VOR and an HSI.

2.1.1 Radio Navigation Aids

.1 Ensuring a VOR or DME is Working
.2 Using VORs
.3 Knowing Where You Are Regarding a VOR
.4 Finding Intersections with VOR-LOC-DME

2.1.2 Radio Navigation Instruments

.1 How to Use an HSI
.2 HSI with a VOR
.3 HSI with a LOC
.4 LOC and Glideslope Displacement
.5 DME Error
.6 DME Arcs

2.2 DEPARTURE AND ARRIVAL PROCEDURES

Objectives: You will review published departure and arrival procedures used during IFR operations.

2.2.1 Departure Procedures

.1 ODP and SID Departure Procedures
.2 DP Frequencies
.3 Climb Rates and Gradients
.4 Climb Via SID
.5 Other Types of IFR Departures

2.2.2 Arrival Procedures

.1 STAR Arrival Procedures
.2 Descending on a STAR
.3 Descend Via a STAR

2.3 HOLDING PATTERNS

Objectives: You will gain insight into the different types of holding patterns, entries and corrections.

2.3.1 Holding Patterns

.1 Holding Instructions
.2 Holding Pattern Entries
.3 Holding at a DME Fix
.4 Holding at a VOR with an HSI
.5 Holding Pattern Speeds
.6 Holding Pattern Timing
.7 Holding with Advanced Avionics

2.4 INSTRUMENT APPROACHES

Objectives: You will expand your knowledge on interpreting and flying instrument approach procedures.

2.4.1 Approach Chart Format

.1 Instrument Approach Titles
.2 Format Overview and Radio Frequencies
.3 Minimum Safe Altitudes
.4 Initial Approach Fixes
.5 Published Altitudes

2.4.2 Course Reversal

.1 Procedure Turn
.2 Holding Patterns
.3 Teardrops
.4 No Procedure Turn

2.4.3 Instrument Landing System

.1 ILS Components
.2 Compass Locators

2.4.4 Profile View

.1 Using the Glideslope
.2 Calculating Rate of Descent

2.4.5 Minimums

.1 Aircraft Approach Categories
.2 Straight-In Minimums with Glideslope
.3 Straight-In Minimums without Glideslope
.4 Circling Minimums
.5 Stepdown Fixes
.6 Runway Visual Range

2.4.6 Missed Approach

.1 Missed Approach Point with Glideslope
.2 Missed Approach Point without Glideslope
.3 Executing a Missed Approach

2.4.7 Airport Sketch

.1 Touchdown Zone Elevation and Displaced Thresholds
.2 Lighting

2.4.8 Additional Localizer Type Approaches

.1 Parallel Approaches
.2 Back Course Approaches
.3 LDA and SDF Approaches

2.4.9 Approach Chart Information and Notes

.1 Required Equipment for Approach
.2 Non-Standard Alternate Minimums
.3 Non-Standard Takeoff Minimums
.4 Notes on Approach Charts - Text
.5 Notes on Approach Charts - Symbols

2.4.10 RNAV Approaches Using GPS

.1 RNAV and Waypoints
.2 GPS Requirements and RAIM
.3 Basic-T and TAAs
.4 RNAV (GPS) Navigation and Missed Approaches
.5 Approach Minimums Using GPS

2.4.11 Other Approach Procedures

.1 Stabilized Approach and VDPs
.2 PAR Approaches and Radar Vectors to Final
.3 ASR Approaches and No-Gyro Vectors

2.4.12 Inoperative Components

.1 Inoperative Components Table
.2 Substitutions for ILS Components

FLIGHT SCENARIOS

DEMONSTRATING AND EXPLAINING BASIC ATTITUDE INSTRUMENT MANEUVERS FROM THE INSTRUCTOR'S SEAT

DEMONSTRATING AND EXPLAINING NAVIGATION AND INSTRUMENT MANEUVERS FROM INSTRUCTOR'S SEAT

DEMONSTRATING AND EXPLAINING INSTRUMENT APPROACHES FROM THE INSTRUCTOR'S SEAT

DEMONSTRATING AND EXPLAINING AN INSTRUMENT APPROACH WITH AN INSTRUMENT/AVIONICS FAILURE / PHASE 2 *PROGRESS STAGE 1 CHECK*

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Demonstrating and Explaining Basic Attitude Instrument Maneuvers from the Instructor's Seat (2-1)

Objective:
Introduce demonstrating basic attitude instrument maneuvers while simultaneously explaining how to perform them
Explain each instrument task while demonstrating it
Plan an instructional flight covering the assigned tasks
Meet/exceed Instrument Rating standards
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Identify risks inherent while instructing each maneuver and appropriate mitigation
Teach risks involved with phase of flight/maneuver and appropriate mitigation
Identify areas for loss of collision avoidance awareness while instructing

Preflight Discussion

New this scenario:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Explaining Instrument Maneuvers in this Scenario (while demonstrating them)
Improving your skills:
Risk Management
Situational Awareness
Controlled Flight into Terrain Awareness
Obtain a Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
Preflight Inspection
Cockpit Management
Checklist Usage
Perform an Instrument Cockpit Check
Positive Exchange of Flight Controls
Taxiing
Collision Avoidance
Compliance with ATC Clearances
Departure Procedure (DP/ODP/vector)
Pitch and Power Settings Required for Basic Instrument Maneuvers
Basic Instrument Flight Maneuvers (1 or more chosen by instructor completing all by end of phase 2)
Recovery from Unusual Flight Attitudes
Intercepting and Tracking Navigational Courses
Precision Approach
Nonprecision Approach
Landing from a Straight-In Approach
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

SCENARIO 2: Demonstrating and Explaining Navigation and Instrument Maneuvers from Instructor's Seat (2-2)

Objective:
Expand skill demonstrating/explaining instrument maneuvers
Plan an instructional flight covering the assigned tasks
Meet/exceed Instrument Rating standards
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Identify risks inherent while instructing each maneuver and appropriate mitigation
Identify areas for loss of collision avoidance awareness while instructing

Preflight Discussion

New this scenario:
Nonprecision Approach (with the loss of primary flight instruments)
Improving your skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Situational Awareness
Task Management
Explaining Instrument Maneuvers in this Scenario (while demonstrating them)
Obtain a Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
File an IFR Flight Plan
Perform an Instrument Cockpit Check
Obtaining an IFR Clearance
Departure Procedure (DP/ODP/vector)
Basic Instrument Flight Maneuvers (1 or more chosen by instructor completing all by end of phase 2)
Navigation System Orientation
Intercepting and Tracking Navigational Courses
DME Arcs
Holding Procedures
Loss of Primary Flight Instruments
Simulated Engine Failure (IR)
Nonprecision Approach
Landing from a Straight-In Approach
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

SCENARIO 3: Demonstrating and Explaining Instrument Approaches from the Instructor's Seat (2-3)

Objective:
Introduce simulated common errors experienced during instrument approaches
Explain each instrument approach while demonstrating it
Plan an instructional flight covering the assigned tasks
Meet/exceed Instrument Rating standards
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Identify risks inherent while instructing each maneuver and appropriate mitigation
Identify areas for loss of collision avoidance awareness while instructing

Preflight Discussion

New this scenario:
Circling Approach
Landing from a Circling Approach
Improving your skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Automation Management
Obtain a Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
File an IFR Flight Plan
Explaining Instrument Maneuvers in this Scenario (while demonstrating them)
Perform an Instrument Cockpit Check
Obtaining an IFR Clearance
Departure Procedure (DP/ODP/vector)
Basic Instrument Flight Maneuvers (1 or more chosen by instructor completing all by end of phase 2)
Lost Communications
Intercepting and Tracking Navigational Courses
Holding Procedures
Precision Approach
Nonprecision Approach
Missed Approach
Use of Autopilot During an Instrument Approach
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

Phase 2 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
The Teaching Process			
Teaching Methods			
Planning instructional activity			
Regulations and Publications related to IFR Operations			
Steep Turns			
Recovery from unusual attitudes			
Holding Procedures			
Circling Approaches			
Loss of Communications			
Autopilot operations			
Presents a preflight lesson on an assigned maneuver to be performed in flight			

Phase 2 Proficiency Checklist

*****All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Preflight Procedures			
Weather briefing and/or acceptable weather sources *Knows FAA-approved weather resources and proper format to request an IFR weather briefing*			
Evaluating weather information *Can accurately evaluate weather data from an FAA-approved source*			
Filing an IFR flight plan *Knows and uses the appropriate format to file an IFR flight plan*			
Takeoff and landing data *Accurately calculates the required takeoff and landing distances*			
Weight and balance *Determines that the flight will be conducted within weight and balance limitations*			

Phase 2 Proficiency Checklist *continued*

Charts *Has current aeronautical charts and publications*			
Preflight inspection *Can perform a safe preflight inspection without instructor assistance*			
Cockpit management *Organizes the cockpit, has easy access to the checklist and utilizes items such as a kneeboard, paper and pen/pencil to record information*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Instrument cockpit check *Performs an instrument cockpit check to ensure all required items are in working order prior to flight*			
Taxiing *Runway incursion procedures records taxi instructions, airport diagram, full attention to taxiing*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has control of the airplane*			
Obtain IFR clearance *Knows how to contact ATC to receive an IFR clearance*			
In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Uses resources to ensure collision avoidance and responds to ATC traffic calls*			
Compliance with ATC clearances *Complies with clearances as necessary maintaining altitude ±100 feet and heading ±10 degrees*			
Basic Instrument Maneuvers			
Pitch and power settings required for basic instrument maneuvers (IR) *Knows and uses appropriate pitch and power settings*			
Straight-and-level flight (IR) *Smooth, coordinated, effective use of flight controls* *Maintains Hdg ±5°, Alt ±100 ft*			
Airspeed changes in level flight (IR) *Adjusts pitch and power as necessary to adjust speed and trims as appropriate to maintain level flight*			
Standard-rate level turns to headings (IR) *Uses instrumentation to assist in achieving standard rate turns during simulated or actual IFR* *Maintains Hdg ±5°, Alt ±100 ft*			
Constant airspeed climbs and descents (IR) *Utilizes a constant power setting and uses pitch to control airspeed. Coordinated controls trimmed* *Maintains Hdg ±10°, A/S ±5 kt, level off Alt ±50 ft*			
Constant rate climbs and descents (IR) *Utilizes a constant power setting and uses pitch to control vertical speed. Coordinated controls trimmed* *Maintains Hdg ±10°, VSI ± 100 fpm, level off Alt ±50 ft*			
Constant rate climbs and descents with constant airspeed (IR) *Uses power setting and pitch to control desired vertical speed and airspeed* *Maintains Hdg ±10°, A/S ±5 kt, VSI ± 100 fpm, level off Alt ±50 ft*			
Turning climbs and descents (IR) *Uses proper rudder/control wheel inputs to maintain coordinated flight and uses standard rate*			
Level-offs (IR) *Sets pitch, applies power as appropriate, and then trims as appropriate*			
Compass turns to magnetic headings (IR) *Displays understanding of compass dip errors* *Maintains ±10° bank, ±100 feet altitude, and can achieve the desired heading*			
Timed turns to magnetic headings (IR) *Displays understanding of timed standard rate turns* *Maintains ±10° bank, ±100 feet altitude and rolls out ±10° to assigned heading*			

Phase 2 Proficiency Checklist *continued*

Steep turns (IR) *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			
Recovery from unusual flight attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Navigation			
Departure procedure (IR) Departs airport using appropriate DP, ODP or vector to assigned route and conforms to procedure restrictions, courses, and altitudes			
Navigation system orientation (IR) *Uses installed navigation systems to establish/maintain situational awareness*			
Intercepting and tracking navigational course (IR) *Intercepts and tracks courses maintaining altitude ±100 feet, headings ±10 degrees, airspeed ±10 kts, and course within ¾ scale CDI deflection or ±10 degrees on RMI*			
DME arc (IR) *Intercepts and maintains the DME arc ±1 nautical mile*			
Holding Procedures			
Holding procedures (IR) *Uses the appropriate entry and proper corrections to become established, makes all required ATC reports, and can accurately fly a holding pattern*			
Instrument approaches			
Precision approach (IR) *No more than 3/4 scale deflection, continues to the missed approach point*			
Nonprecision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach with the loss of primary flight instruments (IR) *Flight Instructor Instrument Practical Test Standards*			
Circling approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (IR) *Initiates the missed approach promptly when the required visual references are not acquired by the MAP and conforms to the published or assigned alternate procedure*			
Use of autopilot during an instrument approach (IR) *If equipped, uses the autopilot to fly an instrument approach*			
Landing from a straight in approach *Maintains a safe and stable approach to landing from the MDA or DA*			
Landing from a circling approach *Maintains a safe and stable approach to landing from the MDA*			
Emergency operations			
Loss of communications (IR) *Recognizes the loss of communications and knows when to continue with flight plan as filed, when to deviate, and when to begin an approach at destination*			
Loss of primary flight instruments (IR) *Recognizes the loss of a primary flight instrument indicator and safely controls the airplane without use of primary instruments, reports failure to ATC as necessary*			
Simulated engine failure (IR) *Maintains control and sets best glide airspeed, simulates notifying ATC, setting transponder, follows emergency checklist continues to below simulated cloud base*			
After landing ground operations			
Closes IFR flight plan *Properly closes an IFR flight plan*			

Phase 2 Proficiency Checklist *continued*

Post-landing taxi and parking *Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area*			
Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight procedures *Secures aircraft and completes appropriate checklists and postflight inspection*			

Phase 2 completion standards:

You have completed Phase 2 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards
- Simultaneously explain each maneuver while demonstrating it
- Continue assessing the risks of each maneuver and developing mitigation strategies
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks
- Complete the Phase 2 Progress Stage 1 Check

INSTRUCTOR NOTES:

SCENARIO 4: Demonstrating and Explaining an Instrument Approach with an Instrument/Avionics Failure and Phase 2 Progress Stage 1 Check (2-4)

Objective:
Plan an instructional flight covering the assigned tasks
Meet/exceed Instrument Rating standards
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
Identify enhanced risk areas due to the instructional environment
Identify risk areas for loss of situational awareness while instructing

Preflight Discussion

New this scenario:
Nonprecision Instrument Approach (with an Instrument/Avionics Failure)

Checking Your Skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Situational Awareness
Task Management
Controlled Flight into Terrain Awareness
Automation Management
Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
Filing a Flight Plan
Preflight Inspection
Cockpit Management
Checklist Usage
Instrument Cockpit Check
Positive Exchange of Flight Controls
Taxiing
Obtaining IFR Clearance
Collision Avoidance
Compliance with ATC Clearance
Departure Procedure (DP/ODP/Vector)
Basic Instrument Flight Maneuvers
- Basic Attitude Instrument Maneuvers
- Compass Turns to Magnetic Headings
- Time Turns to Magnetic Headings
- Steep Turns
- Recovery from Unusual Flight Attitudes

Navigation System Orientation
Intercepting and Tracking Navigational Courses
DME Arc
Precision Approach
Nonprecision Approach
Holding Procedures
Loss of Primary Flight Instruments
Instrument Approach using an Autopilot
Missed Approach
Circling Approach
Landing from a Circling Approach
Loss of Communications
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

Phase 2 **Progress Stage 1 Check***

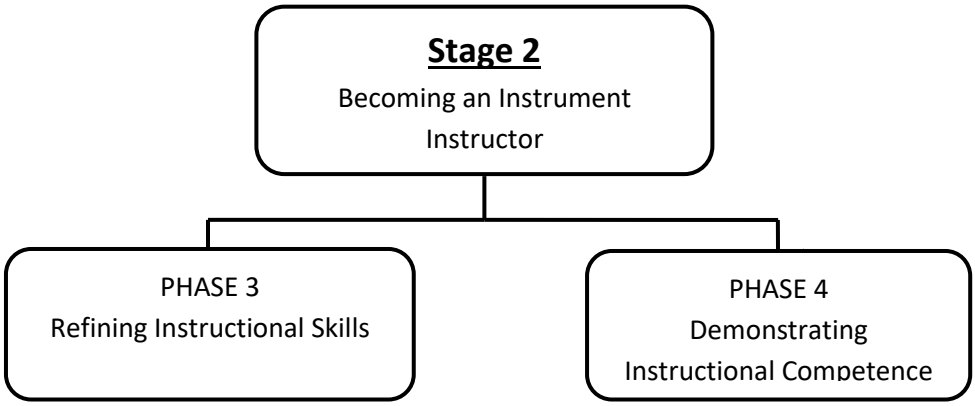
*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain awareness (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Preflight Procedures			
Weather briefing and/or acceptable weather sources *Knows FAA-approved weather resources and proper format to request an IFR weather briefing*			
Evaluating weather information *Can accurately evaluate weather data from an FAA-approved source*			
Filing an IFR flight plan *Knows and uses the appropriate format to file an IFR flight plan*			
Takeoff and landing data *Accurately calculates the required takeoff and landing distances*			
Weight and balance *Determines that the flight will be conducted within weight and balance limitations*			
Charts *Has current aeronautical charts and publications*			
Preflight inspection *Can perform a safe preflight inspection without instructor assistance*			
Cockpit management *Organizes the cockpit, has easy access to the checklist and utilizes items such as a kneeboard, paper and pen/pencil to record information*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Instrument cockpit check *Performs an instrument cockpit check to ensure all required items are in working order prior to flight*			
Taxiing *Runway incursion procedures records taxi instructions, airport diagram, full attention to taxiing*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has control of the airplane*			
Preflight lesson on a maneuver performed in flight *Flight Instructor Instrument Practical Test Standards*			
Obtain IFR clearance *Knows how to contact ATC to receive an IFR clearance*			

Phase 2 ****Progress Stage 1 Check continued**

In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Uses resources to ensure collision avoidance and responds to ATC traffic calls*			
Compliance with ATC clearances *Complies with clearances as necessary maintaining altitude ±100 feet and heading ±10 degrees*			
Basic Instrument Maneuvers			
Basic attitude instrument maneuvers (IR) *Maintains altitude ±100 feet, airspeed ±10 knots, heading ±10 degrees, bank ±5 degrees*			
Compass turns to magnetic headings (IR) *Displays understanding of compass dip errors* *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			
Timed turns to magnetic headings (IR) *Displays understanding of timed standard rate turns* *Maintains ±10° bank, ±100 feet altitude and rolls out ±10° to assigned heading*			
Steep turns (IR) *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			
Recovery from unusual flight attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Navigation			
Departure procedure (IR) *Departs airport using appropriate DP, ODP or vector to assigned route and conforms to procedure restrictions, courses, and altitudes*			
Navigation system orientation (IR) *Uses installed navigation systems to establish/maintain situational awareness*			
Intercepting and tracking navigational course (IR) *Intercepts and tracks courses maintaining altitude ±100 feet, headings ±10 degrees, airspeed ±10 kts, and course within ¾ scale CDI deflection or ±10 degrees on RMI*			
DME arc (IR) *Intercepts and maintains the DME arc ±1 nautical mile*			
Holding Procedures			
Holding procedures (IR) *Uses the appropriate entry and proper corrections to become established, makes all required ATC reports, and can accurately fly a holding pattern*			
Instrument approaches			
Precision approach (IR) *No more than 3/4 scale deflection, continues to the missed approach point*			
Nonprecision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach with the loss of primary flight instruments (IR) *Flight Instructor Instrument Practical Test Standards*			
Circling approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (IR) *Initiates the missed approach promptly when the required visual references are not acquired by the MAP and conforms to the published or assigned alternate procedure*			
Use of autopilot during an instrument approach (IR) *If equipped, uses the autopilot to fly an instrument approach*			
Landing from a circling approach *Maintains a safe stable approach to landing from the MDA*			

Phase 2 ****Progress Stage 1 Check* continued*

Emergency operations			
Loss of communications (IR) *Recognizes the loss of communications and knows when to continue with flight plan as filed, when to deviate, and when to begin an approach at destination*			
Loss of primary flight instruments (IR) *Recognizes the loss of a primary flight instrument indicator and safely controls the airplane without use of primary instruments, reports failure to ATC as necessary*			
After landing ground operations			
Closes IFR flight plan *Properly closes an IFR flight plan*			
Post-landing taxi and parking *Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area*			
Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight procedures *Secures aircraft and completes appropriate checklists and postflight inspection*			



STAGE 2 – ***Becoming an Instrument Instructor*** (2P)

Stage Objectives:

a. Master flight control using instrument reference at instructor's seat position
b. Perform all Instrument Rating tasks exceeding minimum skill standards
c. Integrate explanation of how an instrument task is performed while demonstrating it
d. Incorporate tasks into scenarios
e. Explain risks involved with each maneuver and task and describe methods of mitigating them
f. Demonstrate instructional knowledge of each task
g. Demonstrate instructional knowledge of risk management considerations of each task
h. Identify and manage instructional risks involved with each task
i. Demonstrate instructional knowledge of common errors of each maneuver
j. Analyze and correct simulated errors when teaching maneuvers
k. Incorporate scenarios when teaching maneuvers
l. Complete all Knowledge Lessons
m. Complete FII test

Each phase contains **Web-based Knowledge Instruction**

- The web-based knowledge instruction for the phase should be completed prior to starting the flight scenarios to ensure fundamental knowledge before the flight.

Each phase contains multiple **Flight Scenarios** that can be

- Customized for your local training environment
- Repeated, or
- Omitted if all items in the Phase Proficiency Checklist are completed to standard.

At the end of each Phase are the **Ground Training Checklist** and **Phase Proficiency Checklist**

- All items in the checklist must be completed to the appropriate standard listed before the Phase is considered complete

PHASE 3 – ***Refining Instructional Skills*** (2S)

Phase Objectives:

a. Introduce analyzing and correcting common errors with basic maneuvers
b. Incorporate risk management considerations for each task
c. Correct pilot-in-training simulated errors

Web-based KNOWLEDGE

WEATHER

3.1 WEATHER

Objective: You will delve into weather theory, hazards, products, and tools in order to reach the knowledge level necessary for preparing new pilots to successfully manage environmental risks.

3.1.1 What Makes Weather?

.1 Air Masses and Stability
.2 High Altitude Flying
.3 Stable Air
.4 Temperature Inversions
.5 Unstable Air
.6 Wind Circulation
.7 Fronts

3.1.2 Cloud and Moisture in the Air

.1 Types of Clouds
.2 Water Vapor
.3 Fog

3.1.3 Icing

.1 Structural Icing
.2 Ground Contamination
.3 Flight into Known Icing Conditions
.4 Reported Icing
.5 Flying in Icing Conditions
.6 Using the Autopilot in Icing
.7 Frost, Freezing Rain, and Wet Snow

3.1.4 Thunderstorms

.1 How Thunderstorms Form
.2 Thunderstorm Stages
.3 Thunderstorm Features
.4 Avoiding Thunderstorms

3.1.5 Wind Shear and Microbursts

.1 Wind Shear
.2 Microbursts

3.1.6 Airport Weather Observations and Forecasts

.1 Surface Observations
.2 TAF – Format
.3 TAF – From Grouping
.4 TAF – Becoming Grouping
.5 TAF – Winds, Sky Cover, and Significant Weather
.6 TAF – Wind Shear

3.1.7 Wide Area Weather Forecasts and Reports

.1 Graphical Forecasts for Aviation
.2 PIREPs and In-Flight Weather Advisories
.3 Winds and Temperature Aloft Forecasts
.4 Surface Analysis Charts
.5 Low Level Significant Weather Prog Chart
.6 High Level Significant Weather Prog Chart

3.1.8 Weather Hazard Advisories

.1 AIRMETs and SIGMENTs
.2 Aviation Watch Notification Messages
.3 Convective Outlook Charts

FLIGHT SCENARIOS

DEMONSTRATING, EXPLAINING, AND CRITIQUING INSTRUMENT MANEUVERS FROM THE INSTRUCTOR'S SEAT

DEMONSTRATING, EXPLAINING, AND CRITIQUING INSTRUMENT APPROACHES FROM THE INSTRUCTOR'S SEAT

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Demonstrating, Explaining, and Critiquing Instrument Maneuvers from the Instructor's Seat (3-1)

Objective:
Sharpen techniques flying and explaining the Instrument tasks
Detect and correct simulated common errors during instrument tasks
Meet defined skill standards with each task
Refine ability to detect and correct simulated maneuver common errors
Develop simple scenarios to incorporate listed tasks and identify associated risks
Evaluate simulated student maneuver performance correcting simulated errors
Plan an instructional flight covering the assigned tasks
Display command of all maneuvers surpassing minimum standards
Display instructional knowledge of risk and risk mitigation factors for each maneuver
Display instructional knowledge and ability to explain the elements of each task

Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment

Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic

How to get there:
Electronic navigation, vectors and/or clearance

Planned deviations:
None

Planned malfunctions:
As specified by tasks

Risks (real or simulated):
Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
Identify enhanced risk areas due to the instructional environment
Develop mitigation strategies for enhanced risk due to the instructional environment

Preflight Discussion

New this scenario:
Critiquing Instrument Tasks in this scenario (flown by flight instructor)
Develop Appropriate Scenarios for Instrument Tasks
Weather Briefing (critiqued)
Filing a Flight Plan (critiqued)
Instrument Cockpit Check (critiqued)
Obtaining IFR Clearance (critiqued)
Departure Procedure (critiqued)
Basic Attitude Instrument Maneuvers (critiqued)
Precision Approach (critiqued)
Missed Approach Procedures (critiqued)
Recovery from Unusual Flight Attitudes (critiqued)
Steep Turns (critiqued)

Improving your skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Situational Awareness
Automation Management
Checklist Usage
Positive Exchange of Flight Controls
Collision Avoidance
Compliance with ATC Clearances
Precision Approach (flown by Instructor in Training)
Approach with use of Autopilot (flown by Instructor in Training)
Landing from a Straight-In Approach (flown by Instructor in Training)
Checking Instruments and Equipment (postflight)
Postflight Procedures

Postflight Discussion

SCENARIO 2: Demonstrating, Explaining, and Critiquing Instrument Approaches from the Instructor's Seat (3-2)

Objective:
Meet defined skill standards with each task
Refine ability to detect and correct simulated instrument approach errors
Continue developing appropriate scenarios for instrument tasks
Evaluate simulated student maneuver performance correcting simulated errors
Plan an instructional flight covering the assigned tasks
Display command of all maneuvers surpassing minimum standards
Display instructional knowledge of risk and risk mitigation factors for each maneuver
Display instructional knowledge and ability to explain the elements of each task
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
Identify enhanced risk areas due to the instructional environment
Employ mitigation strategies for enhanced risk due to the instructional environment

Preflight Discussion

New this scenario:
Preflight Inspection (critiqued)
Intercepting and Tracking Navigational Source (critiqued)
Nonprecision Approach (critiqued)
Loss of Primary Flight Instruments (critiqued)
Holding Procedures (critiqued)
Circling Approach (critiqued)
Landing from a Circling Approach (critiqued)
Postflight Procedures (critiqued)
Improving your skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Task Management
Controlled Flight into Terrain Awareness
Weather Briefing
Critiquing Instrument Tasks in this scenario (flown by flight instructor)
Positive Exchange of Flight Controls
Nonprecision Approach (flown by Instructor in Training)
Nonprecision Approach with Loss of Primary Flight Instrument Indicators (critiqued)
Postflight Discussion

Phase 3 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Critique and Evaluation			
Human Behavior and Effective Communication			
Aeromedical Factors			
Weather Information			
Federal Aviation Regulations			
Air Traffic Control Clearances			
Departure, Enroute and Arrival Procedures			
Presents a preflight lesson on an assigned maneuver to be performed in flight			

Phase 3 Proficiency Checklist

***All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Preflight Procedures			
Weather briefing and/or acceptable weather sources (critiqued) *Knows FAA-approved weather resources and proper format to request an IFR weather briefing*			
Filing an IFR flight plan (critiqued) *Knows and uses the appropriate format to file an IFR flight plan*			
Preflight inspection (critiqued) *Can perform a safe preflight inspection without instructor assistance*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Instrument cockpit check (critiqued) *Performs an instrument cockpit check to ensure all required items are in working order prior to flight*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has control of the airplane*			
Obtain IFR clearance (critiqued) *Knows how to contact ATC to receive an IFR clearance*			

Phase 3 Proficiency Checklist *continued*

In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Uses resources to ensure collision avoidance and responds to ATC traffic calls*			
Employs appropriate scenarios *Uses realistic scenarios with clear set of objectives tailored to the learner and environment*			
Compliance with ATC clearances *Complies with clearances as necessary maintaining altitude ±100 feet and heading ±10 degrees*			
Basic Instrument Maneuvers			
Basic attitude instrument maneuvers (critiqued) *Maintains altitude ±100 feet, airspeed ±10 knots, heading ±10 degrees, bank ±5 degrees*			
Steep turns (critiqued) *Maintains ±10° bank, ±100 feet altitude, and rolls out ±10° to assigned heading*			
Recovery from unusual flight attitudes (critiqued) *Flight Instructor Instrument Practical Test Standards*			
Navigation			
Departure procedure (critiqued) *Departs airport using appropriate DP, ODP or vector to assigned route and conforms to procedure restrictions, courses, and altitudes*			
Intercepting and tracking navigational course (critiqued) *Intercepts and tracks courses maintaining altitude ±100 feet, headings ±10 degrees, airspeed ±10 kts, and course within ¾ scale CDI deflection or ±10 degrees on RMI*			
Holding Procedures			
Holding procedures (critiqued) *Uses the appropriate entry and proper corrections to become established, makes all required ATC reports, and can accurately fly a holding pattern*			
Instrument approaches			
Precision approach (critiqued) *No more than 3/4 scale deflection, continues to the missed approach point*			
Precision approach *No more than 3/4 scale deflection, continues to the missed approach point*			
Nonprecision approach (critiqued) *No more than 3/4 scale deflection, continues from the MDA or makes a missed approach*			
Nonprecision approach (flown by instructor in training) *No more than 3/4 scale deflection, continues from the MDA or makes a missed approach*			
Nonprecision approach with the loss of primary flight instruments (critiqued) *Flight Instructor Instrument Practical Test Standards*			
Circling approach (critiqued) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (critiqued) *Executes a missed approach procedure at the MAP when the runway is not in sight*			
Use of autopilot during an instrument approach (IR) *If equipped, uses the autopilot to fly an instrument approach*			
Landing from a straight in approach *Flight Instructor Instrument Practical Test Standards*			
Landing from a circling approach (critiqued) *Flight Instructor Instrument Practical Test Standards*			
Emergency operations			
Loss of primary flight instruments (critiqued) *Recognizes the loss of a primary flight instrument indicator and safely controls the airplane without use of primary instruments, reports failure to ATC as necessary*			

Phase 3 Proficiency Checklist *continued*

After landing ground operations			
Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight procedures (critiqued) *Secures aircraft and completes appropriate checklists and postflight inspection*			

Phase 3 completion standards:

You have completed Phase 3 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards
- Demonstrate planning an initial instrument rating instructional flight
- Develop scenarios to incorporate all maneuvers in this phase
- Demonstrate detection of common maneuver errors and provide corrective instruction
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks

INSTRUCTOR NOTES:

PHASE 4 – ***Demonstrating Instructional Competence*** (2S)

Phase Objectives:

a. Demonstrating and explaining an Instrument cross-country flight
b. Demonstrate all instrument tasks to standards while simultaneously explaining how to fly them
c. Incorporate risk management considerations for each task
d. Demonstrate active instructional level risk awareness, identification, and mitigation

Web-based KNOWLEDGE

IFR CROSS-COUNTRY FLYING
FLIGHT PLANNING
INSTRUMENT GROUND INSTRUCTOR (Optional)

4.1 IFR CROSS-COUNTRY FLYING

Objective: You will reacquaint yourself and sharpen your knowledge of cross-country preflight planning, in-flight calculations, and diversion in preparation for teaching those concepts to new pilots.

4.1.1 Global Positioning System (GPS)

.1 Global Positioning System (GPS)
.2 WAAS and Non-WAAS GPS
.3 Technically Advanced Aircraft

4.1.2 Enroute Charts

.1 Airspace Depiction
.2 Special Use Airspace
.3 Airways
.4 Ways to Identify an Intersection
.5 VOR Changeover Point
.6 Airport Information on the Enroute Chart
.7 Localizer Symbols

4.1.3 Airway Altitudes

.1 Minimum Enroute Altitude (MEA) and Maximum Authorized Altitude (MAA)
.2 Minimum Obstruction Clearance Altitude
.3 Minimum Crossing Altitude
.4 Minimum Reception Altitude

4.1.4 IFR Flight Operations

.1 Controlled and Uncontrolled Airspace
.2 ATC Frequencies
.3 FSS Frequencies

4.1.5 VOR Navigation Limitations

.1 VOR Signal Limitations
.2 VOR Usable Distances and Altitudes

4.1.6 Risk Management and ADM

.1 Identifying Risk
.2 Assessing and Mitigating Risks
.3 Risk Management and Hazardous Attitudes
.4 Aeronautical Decision Making
.5 Crew Resource Management and Single-Pilot Resource Management

4.2 FLIGHT PLANNING

Objective: You will review flight planning products, aircraft and engine systems, cold weather and icing, taxiing with wind, collision avoidance, flight physiological factors, visual glide slopes, and airport marking and lighting.

4.2.1 Flight Plans

.1 Flight Planning Information
.2 Flight Plan Forms
.3 Chart Supplement and Preferred Routes
.4 Leg Times and Fuel Burn

4.3 INSTRUMENT GROUND INSTRUCTOR (Optional)

Objective: You will learn the instrument procedures, regulations, and flight planning concepts unique to helicopter instrument operations in preparation for those topics on your Instrument Ground Instructor knowledge test.

4.3.1 Helicopter Instrument Procedures

.1 Copter Procedures
.2 Maximum Airspeed for Approach
.3 Using Airplane Instrument Approaches
.4 Instrument Reference Turns
.5 Recovery from Unusual Attitudes

4.3.2 Helicopter Regulations

.1 Pilot Qualifications and Recency
.2 Instrument Fuel Requirements
.3 Alternate Airports
.4 Required Equipment and Flight Off-Airways

4.3.3 Helicopter Flight Planning

.1 Flight Plan Information
.2 Cross-Country Planning

FLIGHT SCENARIOS

DEMONSTRATING AND EXPLAINING AN INSTRUMENT CROSS-COUNTRY PHASE 4 FINAL PROGRESS STAGE 2 CHECK

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Demonstrating and Explaining an Instrument Cross-Country (4-1)

Objective:
Plan an instructional flight covering the assigned tasks
Demonstrate and explain how to plan a long cross-country flight of at least 100 nm.
Teach an inflight diversion
Display instructional knowledge of risk and risk mitigation factors for each maneuver
Display instructional knowledge and ability to explain the elements of each task
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
Depart on an IFR cross-country for 30-50nm
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
Weather
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
Identify enhanced risk areas due to the instructional environment
Employ mitigation strategies for enhanced risk due to the instructional environment

Preflight Discussion

New this scenario:
IFR Cross-Country Flight Planning
Inflight Diversion
Inflight Weather Briefing
Improving your skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Risk Management
Situational Awareness
Task Management
Controlled Flight into Terrain Awareness
Automation Management
Aeronautical Decision Making
Weather Briefing
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
Filing IFR Flight Plan
Preflight Inspection
Cockpit Management
Checklist Usage
Perform an Instrument Cockpit Check
Positive Exchange of Flight Controls
Taxiing
Collision Avoidance
Obtain IFR Clearance
Departure Procedure (DP/ODP/vectors)
Compliance with ATC Clearances
Compliance with Departure, En Route, and Arrival Procedures and Clearances
Intercepting and Tracking Navigational Courses
DME Arc
Use of Autopilot During an Instrument Approach
Nonprecision Approach with Loss of Primary Flight Instruments
Precision Approach
Missed Approach
Circling Approach
Holding Procedures
Landing from a Straight-In or Circling Approach
Steep Turns
Recovery from Unusual Flight Attitudes
Loss of Communications
Loss of Primary Flight Instruments
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

Phase 4 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Cross-country flight planning			
In-flight weather resources			
ATC clearances and procedures			
IFR Procedures and Reports			
Diversion to alternate			
Logbook Entries Related to Instrument Instruction			
Special Emphasis Areas			
Logbook Entries			
Charts and Publications			
Presents a preflight lesson on an assigned maneuver to be performed in flight			
Practical Test Prep			

Phase 4 Proficiency Checklist

*****All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Aeronautical decision making (ADM) *Exhibits sound decision-making during planning and execution of the planned flight*			
Preflight Procedures			
Weather briefing and/or acceptable weather sources *Knows FAA-approved weather resources and proper format to request an IFR weather briefing*			
Evaluating weather information *Can accurately evaluate weather data from an FAA-approved source*			
Filing an IFR flight plan *Flight Instructor Instrument Practical Test Standards*			
Takeoff and landing data *Flight Instructor Instrument Practical Test Standards*			

Phase 4 Proficiency Checklist *continued*

Weight and balance *Flight Instructor Instrument Practical Test Standards*			
Charts *Flight Instructor Instrument Practical Test Standards*			
IFR cross-country flight planning *Flight Instructor Instrument Practical Test Standards*			
Preflight inspection *Flight Instructor Instrument Practical Test Standards*			
Cockpit management *Flight Instructor Instrument Practical Test Standards*			
Checklist usage *Flight Instructor Instrument Practical Test Standards*			
Instrument cockpit check *Flight Instructor Instrument Practical Test Standards*			
Taxiing *Flight Instructor Instrument Practical Test Standards*			
Positive exchange of flight controls *Flight Instructor Instrument Practical Test Standards*			
Obtain an IFR clearance *Flight Instructor Instrument Practical Test Standards*			

In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Flight Instructor Instrument Practical Test Standards*			
Compliance with ATC clearances *Flight Instructor Instrument Practical Test Standards*			
Compliance with Departure, En Route and Arrival procedures *Flight Instructor Instrument Practical Test Standards*			
In-flight weather briefing *Demonstrate the use of in-flight communications to contact FSS and obtain current weather information*			
In-flight diversion *Demonstrate the ability to determine when and where to divert to an alternate destination*			
Basic Instrument Maneuvers			
Steep turns (IR) *Flight Instructor Instrument Practical Test Standards*			
Recovery from unusual flight attitudes (IR) *Flight Instructor Instrument Practical Test Standards*			
Navigation			
Departure procedure (IR) *Flight Instructor Instrument Practical Test Standards*			
Intercepting and tracking navigational course (IR) *Flight Instructor Instrument Practical Test Standards*			
DME arc (IR) *Flight Instructor Instrument Practical Test Standards*			
Holding Procedures			
Holding procedures (IR) *Uses the appropriate entry and proper corrections to become established, makes all required ATC reports, and can accurately fly a holding pattern*			

Phase 4 Proficiency Checklist *continued*

Instrument approaches			
Precision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach with the loss of primary flight instruments (IR) *Flight Instructor Instrument Practical Test Standards*			
Circling approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Use of autopilot during an instrument approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Landing from a straight-in or circling approach *Flight Instructor Instrument Practical Test Standards*			
Emergency operations			
Loss of communications (IR) *Flight Instructor Instrument Practical Test Standards*			
Loss of primary flight instruments (IR) *Flight Instructor Instrument Practical Test Standards*			
After landing ground operations			
Closes IFR flight plan *Flight Instructor Instrument Practical Test Standards*			
Post-landing taxi and parking *Flight Instructor Instrument Practical Test Standards*			
Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight Procedures *Flight Instructor Instrument Practical Test Standards*			

Phase 4 completion standards:

You have completed Phase 4 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards while simultaneously explaining how to fly them
- Introduce maneuvers to simulated pilots in training
- Correct pilot-in-training errors
- Demonstrate ability to teach appropriate risk surveillance and mitigation
- Demonstrate active instructional level risk awareness, identification, and mitigation
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks
- Complete the Phase 4 Final Progress Stage 2 Check

INSTRUCTOR NOTES:

SCENARIO 2: Phase 4 Final Progress Stage 2 Check (4-2)

Objective:
Check instructor selects at least the minimum tasks required for an actual practical test
Check instructor conducts scenario as a mock instructor practical test
Instructor applicant displays command of all maneuvers surpassing minimum standards
Instructor applicant breaks down each maneuver and explains its basic elements while demonstrating the maneuver
Instructor applicant critiques a maneuver and an approach flown by the check instructor
Purpose/pressures (real or simulated):
Add Instrument Rating to Flight Instructor Certificate
Aviation Employment
Where to go:
A point within 20 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Electronic navigation, vectors and/or clearance
Planned deviations:
None
Planned malfunctions:
As specified by tasks
Risks (real or simulated):
Instructor applicant Identifies risk areas involved with each maneuver assigned
Instructor applicant teaches risks and mitigation techniques involved with each maneuver/task
Instructor applicant maintains active risk surveillance throughout the flight

Preflight Discussion

Checking Your Skills:
Present Preflight Lesson (on an assigned maneuver to be performed in flight)
Weather Information
IFR Cross-Country Flight Planning
Preflight Preparation (Evaluate Weather, Current Charts, Calculate Takeoff/Landing and Weight/Balance Data)
Filing IFR flight plan
Cockpit Management
Risk Management
Task Management
Controlled Flight into Terrain Awareness
Automation Management
Aeronautical Decision Making
Situational Awareness
Checklist Usage
Perform an Instrument Cockpit Check
Obtain IFR Clearance
Collision Avoidance
Departure Procedure (DP/ODP/vectors)
Compliance with ATC Clearances
Compliance with Departure, En Route, and Arrival Procedures and Clearances
Navigation System Orientation
Intercepting and Tracking Navigational Courses and DME Arcs
Compass Turns to Magnetic Headings
Timed Turns to Magnetic Headings
Steep Turns
Recovery from Unusual Flight Attitudes
Precision Approach
Nonprecision Approach
Nonprecision Approach with the Loss of Primary Flight Instruments
Instrument Approach with the Use of Autopilot
Circling Approach
Holding Procedures
Missed Approach
Landing from a Straight-In or Circling Approach
Loss of Communications
Loss of Primary Flight Instruments
Post-Landing Taxi, Checking Instruments and Equipment, Close Flight Plan and Parking
Postflight Procedures

Postflight Discussion

Phase 4 **Final Progress Stage 2 Check**

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Risk management (RM) *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*			
Situational awareness (SA) *Identifies potential SA risks; understands and uses cockpit tools available to enhance SA*			
Task management (TM) *Prioritizes and selects most appropriate tasks for phase of flight*			
Controlled flight into terrain (CFIT) awareness *Identifies those areas of an instructional flight with elevated CFIT risk*			
Automation management (AM) *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Aeronautical decision making (ADM) *Exhibits sound decision-making during planning and execution of the planned flight*			
Preflight Procedures			
Weather Information *Flight Instructor Instrument Practical Test Standards*			
Instrument cockpit check *Flight Instructor Instrument Practical Test Standards*			
Checklist usage *Flight Instructor Instrument Practical Test Standards*			
Preflight preparation *Flight Instructor Instrument Practical Test Standards*			
Prepare IFR cross-country flight plan *Flight Instructor Instrument Practical Test Standards*			
File IFR cross-country flight plan *Flight Instructor Instrument Practical Test Standards*			
Obtain an IFR clearance *Flight Instructor Instrument Practical Test Standards*			
Preflight lesson on a maneuver performed in flight *Flight Instructor Instrument Practical Test Standards*			
In-flight operations			
Collision avoidance (visually and in response to ATC traffic calls) *Flight Instructor Instrument Practical Test Standards*			
Compliance with ATC clearances *Flight Instructor Instrument Practical Test Standards*			
Compliance with departure, en route, arrival procedures and clearances *Flight Instructor Instrument Practical Test Standards*			
Cockpit management *Organizes charts, logs, electronic devices and backups for ready access during single pilot IFR*			
Basic Instrument Maneuvers			
Compass turns to magnetic headings (IR) *Flight Instructor Instrument Practical Test Standards*			
Timed turns to magnetic headings (IR) *Flight Instructor Instrument Practical Test Standards*			

Phase 4 *Final Progress Stage 2 Check* continued

Steep turns (IR) *Flight Instructor Instrument Practical Test Standards*			
Recovery from unusual flight attitudes (IR) *Flight Instructor Instrument Practical Test Standards*			
Navigation			
Departure procedure (IR) *Flight Instructor Instrument Practical Test Standards*			
Navigation system orientation (IR) *Flight Instructor Instrument Practical Test Standards*			
Intercepting and tracking navigational courses and DME arcs (IR) *Flight Instructor Instrument Practical Test Standards*			
Holding Procedures			
Holding procedures (IR) *Flight Instructor Instrument Practical Test Standards*			
Instrument approaches			
Precision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Nonprecision approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Emergency operations — Approach with loss of primary flight instrument indicators (IR) *Flight Instructor Instrument Practical Test Standards*			
Circling approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Missed approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Use of autopilot during an instrument approach (IR) *Flight Instructor Instrument Practical Test Standards*			
Landing from a straight-in or circling approach *Flight Instructor Instrument Practical Test Standards*			
Emergency operations			
Loss of communications (IR) *Flight Instructor Instrument Practical Test Standards*			
Loss of primary flight instruments (IR) *Flight Instructor Instrument Practical Test Standards*			
After landing ground operations			
Closes IFR flight plan *Flight Instructor Instrument Practical Test Standards*			
Post-landing taxi and parking *Flight Instructor Instrument Practical Test Standards*			
Checking Instruments and Equipment (postflight *Verifies status of flight instruments and navigation equipment after flight*			
Postflight procedures *Flight Instructor Instrument Practical Test Standards*			

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Cessna Flight Instructor Instrument Added Rating Course Training Requirements

Requirements for enrollment

Prior to enrolling in the flight portion of the Cessna Flight Instructor Instrument—Added Rating course, the customer must

- Be at least 18 years old prior to course graduation
- Hold at least a commercial pilot certificate
    - An airplane category, single engine land class rating
- Hold a Flight Instructor Certificate
    - Airplane Single Engine rating
- For a Part 141 course, hold an instrument rating
    - An airplane category, single engine class rating

Ground training requirements

The customer must successfully complete

- All web-based knowledge instruction
- All Ground Training Checklists
- All Progress Checks
- Practice Knowledge Test (if required by flight school)

Flight training requirements

Prior to completing the Cessna Flight Instructor Instrument course

- The applicable minimum hourly requirements must be met
- As well as successful completion of all Phase Proficiency Checklists and Progress Checks

Requirements for graduation

To obtain a graduation certificate for the Cessna Flight Instructor Instrument course, the applicant must:

- Be able to read, speak, write and understand English
- Complete all ground training requirements
- Complete all flight training requirements
- Achieve a satisfactory grade on the FAA Flight Instructor Instrument Airplane Knowledge Test

Minimum flight time requirements

The course is designed to meet the minimum hour requirements of

- 14 CFR Part 141, Appendix G Flight Instructor Certification Course
- 14 CFR Part 61 Subpart H Flight Instructors Other Than Flight Instructors with a Sport Pilot Rating

The minimum FAA hour requirements

- Vary depending upon your course of enrollment
- Are to be thought of as minimums only
    - The goal is to prepare you to be a competent, proficient instrument flight instructor

What you get at an FAA certificated flight school (under 14 CFR Part 141)

If you take a course with this syllabus under Part 141 of the Federal Aviation Regulations, you are assured that flight school has been approved by the FAA and is required to demonstrate and maintain

- Standardized flight operations, including *Safety Procedures and Practices*
- A structured training environment
- Detailed training records available for regular and unannounced FAA checks and inspection
- At least an 80% first attempt pass rate for certificate or rating applicants training under Part 141

Appendix A

FLIGHT INSTRUCTOR INSTRUMENT ADDED RATING COURSE

MINIMUM COURSE HOURS AND CHRONOLOGICAL LOG

For Part 141, Appendix G Compliance

These times are for customer/instructor guidance only. They are a suggested time schedule which will ensure compliance with the minimum flight and ground training required under FAR Part 141. Preflight and postflight briefings are required under FAR Part 141 for each flight training flight. It is suggested that you allow a minimum of .5 hour per flight for these briefings. The written exams may be credited toward the 15 hours of required ground training, and the check flights may be credited toward the 15 hours of flight training.

Date	Lesson	Minimum Total Flight Training	Instrument Flight Training	Total Flight Time	Ground Training
	STAGE 1 **PHASE 1: Performing Instrument Tasks from the Right Seat**				
	Flight Instruments				3.2
	Federal Aviation Regulations				2.7
	Aeronautical Information Manual				2.7
	Phase 1 Ground Training Checklist				1.7
	Flight Scenario 1	1.2	.8	1.2	.5
	Flight Scenario 2	1.3	.9	1.3	.5
	Flight Scenario 3	1.4	1.1	1.4	.5
	PHASE 2: Demonstrating and Explaining Instrument Tasks				
	Navigation				1.7
	Departure and Arrival Procedures				1.6
	Holding Patterns				1.2
	Instrument Approaches				6.1
	Phase 2 Ground Training Checklist				1.5
	Flight Scenario 1	1.4	1.1	1.4	.5
	Flight Scenario 2	1.3	1.0	1.3	.5
	Flight Scenario 3	1.4	1.1	1.4	.5
	Flight Scenario 4 and Progress Check	1.4	1.1	1.4	.8
	Total Received Stage 1				
	Total Required Stage 1	**9.4**	**7.1**	**9.4**	**26.2**

Date	Lesson	Minimum Total Flight Training	Instrument Flight Training	Total Flight Time	Ground Training
	STAGE 2 **PHASE3: Refining Instructional Skills**				
	Weather				4.5
	Phase 3 Ground Training Checklist				1.3
	Flight Scenario 1	1.3	.5	1.3	.5
	Flight Scenario 2	1.4	.5	1.4	.5
	PHASE 4: Demonstrating Instructional Competence				
	IFR Cross-Country Flying				2.9
	Flight Planning				1.0
	Phase 4 Ground Training Checklist				1.5
	Flight Scenario 1	1.4	1.0	1.4	.5
	Flight Scenario 2 and Progress Check	1.5	1.0	1.5	1.5
	Total Received Stage 2				
	Total Required Stage 2	**5.6**	**3.0**	**5.6**	**14.2**

	Total Received in Course				
	Minimum Required for This Part 141 Course	**15.0**	**-**	**15.0**	**15.0**

	Minimum Required for Part 61	**(a)**	**(a)**	**(a)**	**(a)**

(a) * No minimum flight or ground training specified for part 61 other than that necessary to achieve the flight proficiency requirements of 61.187 and aeronautical knowledge of 61.185.

GROUND TRAINING SUMMARY

Phase	Online Knowledge Lessons *	Pre-flight & Post-flight Briefings **	Ground Training Checklist	Total
1	8.6	1.5	1.7	11.8
2	10.6	2.3	1.5	14.4
Stage 1 Totals	19.2	3.8	3.2	26.2
3	4.5	1.0	1.3	6.8
4	3.9	2.0	1.5	7.4
Stage 2 Totals	8.4	3.0	2.8	14.2
Totals	27.6	6.8	6.0	**40.4**

* Based on 40 second average per each lesson question.

** Based on detailed times for per-flight and post-flight briefing per flight.

This syllabus accommodates the required 15-hour minimum aeronautical knowledge training when used as a Part 141, Appendix G curriculum as shown in the table above.

The aeronautical knowledge training occurs through multiple paths including the online tested self-study video segments, instructor/customer interaction in the pre- and post0flight briefings, and during the instructor/customer Ground Training Checklist reviews.

A customer receives credit for the online course study when they complete every lesson within the course. To complete a lesson, the customer must satisfactorily complete every question within that lesson.

Customer aeronautical knowledge competence is assured through instructor/customer Ground Training Checklist reviews that must be demonstrated to the Explain

Appendix B

Useful Flight Instructor References

You will find the current version of the documents listed below at faa.gov:

Handbooks and Manuals:

https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/

Advisory Circulars:

https://www.faa.gov/regulations_policies/advisory_circulars/

Aeronautical Chart Users' Guide:

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/aero_guide/

Practical Test Standards:

https://www.faa.gov/training_testing/testing/test_standards/

Airmen Certification Standards:

https://www.faa.gov/training_testing/testing/acs/

FAA-H-8083-1: Aircraft Weight and Balance Handbook

FAA-H-8083-2: Risk Management Handbook

FAA-H-8083-3: Airplane Flying Handbook

FAA-H-8083-9: Aviation Instructor's Handbook

FAA-H-8083-15: Instrument Flying Handbook

FAA-H-8083-16: Instrument Procedures Handbook

FAA-H-8083-25: Pilot's Handbook of Aeronautical Knowledge

AC 68-1: BasicMed

AC 60-22: Aeronautical Decision Making

AC 60-28: FAA English Language Standard for an FAA Certificate Issued Under 14 CFR Parts 61, 63, 65, and 107

AC 61-65: Certification: Pilots and Flight and Ground Instructors

AC 61-67: Stall and Spin Awareness Training.

AC 61-91: WINGS - Pilot Proficiency Programs

AC 61-98: Currency Requirements and Guidance for Flight Review and Instrument Proficiency Check

AC 61-136: FAA Approval of Aviation Training Devices and Their Use for Training and Experience

AC 90-109: Transition to Unfamiliar Aircraft

AC 120-51: Crew Resource Management Training

FAA Aeronautical Chart Users' Guide

FAA-S-8081-9D: Flight Instructor Instrument Practical Test Standards for Airplane and Helicopter

FAA-S-ACS-8B: Instrument Rating – Airplane Airman Certification Standards

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