



DEPARTMENT OF THE NAVY

CHIEF OF NAVAL AIR TRAINING
CNATRA
250 LEXINGTON BLVD SUITE 102
CORPUS CHRISTI TX 78419-5041

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From: Chief of Naval Air Training
To: Commanding Officer, Naval Aviation Schools Command
Subj: NAVAL FLIGHT OFFICER INTRODUCTORY FLIGHT SCREENING (NIFS)
SYLLABUS APPROVAL

Ref: (a) CNATRAINST 3501.2

Encl: (1) Naval Flight Officer Introductory Flight Screening
(NIFS) Syllabus

1. The syllabus delineated in enclosure (1) is approved for use in conjunction with reference (a).
2. The NIFS Program Manager is authorized to distribute this syllabus to pilot schools, instructors and students as required.
3. Point of contact is Lieutenant Matt Glenn, N312, at DSN 861-3193, (361) 961-3193.

R E Bird

R. E. BIRD
Assistant Chief of Staff for
Training and Operations

Copy to:
COMTRAWING SIX

NAVAL AIR TRAINING COMMAND

NAS CORPUS CHRISTI, TEXAS

(Rev. 06-03)

**NAVAL FLIGHT
OFFICER
INTRODUCTORY
FLIGHT SCREENING
(NIFS)
SYLLABUS**

2003

NAVAL AVIATION SCHOOLS COMMAND

Enclosure (1)

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Chapter 1 - Introduction

Introduction

The Naval Flight Officer Introductory Flight Screening (NIFS) is a course designed to introduce students to the three dimensional world of flying, adapt to the flight environment, cultivate a "co-pilot" sense of responsibility, display the motivation to be a flight officer and develop courage to overcome any fear of flying. NIFS was initiated to decrease flight-related attrition and drop-on-request (DOR) rates in primary Naval Flight Officer (NFO) flight training by identifying SNFOs who lack the determination, motivation, or aeronautical adaptability required to succeed in training. The student should be exposed to the safe operation of an aircraft in take off, landing, and enroute phases of flight and visually navigate through the determination of present position, estimated time of arrival, and heading corrections to maintain a course.

The course includes two elements, ground training and flight training. Ground training consists of a complete Federal Aviation Administration (FAA) private pilot ground training course, preferably taught in a formal classroom program prior to flight training. Flight training consists of 11 lessons, 13.5 flight hours with an additional ½-hour for briefing and ½-hour for debriefing. Lessons will be conducted in a single-engine-land (SEL) airplane with the student in the left seat for maximum access to the flight and navigation instruments.

Ground Training Overview

Students should be entered in a FAA- approved ground training program. Ground training is designed to introduce the student flight officer to the training program, human factors as they relate to flight, and develop a familiarity with aircraft systems, aerodynamic principles, and the flight environment. The student will also be introduced to the concepts of safety of flight, airports, aeronautical charts, airspace, radio communications, and air traffic control services. Students will become familiar with weather theory, typical weather patterns and aviation weather hazards. Students will learn how to obtain and interpret various weather reports, forecasts, and graphic charts and become familiar with flight rules and regulations as set forth the in FAR. The student will learn how to predict performance, and control the weight and balance of the airplane. The student will be introduced to pilotage, dead reckoning, and navigation equipment. The student will become familiar with the use of aeronautical charts, plotters, flight computers and flight publications. The student will learn how to conduct comprehensive flight planning for cross-country flights. Students will take all applicable stage exams and end of course exams as well as the *practice* FAA Private Pilot License (PPL) written knowledge test included with the ground school to complete this element of training.

Students should be entered in a FAA-approved ground training program. If available, the student should attend a formal classroom program with practice FAA written knowledge test prior to beginning flight training. Student Naval Flight Officers must successfully

pass the practice written test with a grade of at least 80%. Procedures for students who do not successfully complete the test are outlined in CNATRAINST 3501.2.

Flight Training Overview

Flight training is a 2 stage, 11 event, 13.5 flight hour applied syllabus designed to expose the student to the flight environment, increase their ability to plan and execute flight operations, dispel misconceptions about the flight profession, develop familiarity with the aircraft and its operating environment, and develop co-piloting skills through the use of challenge and response checklists, and operating and monitoring aircraft navigation systems.

Stage 1 – Orientation. This stage consists of 7 flights (1 through 7). These flights are designed to introduce and develop familiarity with pre-flight & post-flight inspections, checklist use, systems operation, emergency equipment, and airport procedures. The student will be introduced to aircraft basic maneuvers, unusual attitudes, and how controls are used to maintain specific flight attitudes and ground tracks. The student should gain proficiency in the operation of the airplane while navigating and communicating within the local flying area. The goal is to expose the student to the dynamics of flight and the processes required to safely fly in the civil aviation community. At the completion of this stage, the student should demonstrate proficiency with basic flight maneuvers.

Stage 2 – Instrument Navigation. This stage consists of 4 flights (8 through 11). Stage 2 flights are designed to reinforce the experience gained in Stage 1. The student is introduced to night and rudimentary instrument flying; both of which will lay the foundation for cross-country flight. During Stage 2 the student will plan and conduct flights using visual, dead reckoning and radio navigation systems in the National Airspace System while acting as a co-pilot, operating and monitoring navigation and communication systems, initiating and confirming checklists, supporting and reducing the pilot in command's workload. The student will visually navigate while estimating wind, calculating Estimated Time of Arrival (ETA), and maintain course. During the Instrument Navigation stage phase, the student will be will introduced to the concepts of visual position fixing, drift control and wind effects on groundspeed. The student will exercise the proper use of charts, Airport Facility Directory and Instrument Approach Procedures. The Instrument Navigation phase may introduce instrument approach training if the aircraft is so equipped. The flight profiles will include an instrument approach (if available) at an outlying airport, departing on an instrument departure (if available) to intercept a Victor Airway planned route (if available) back to the departure airport for a normal approach.

Recommended Event Sequence

1. Preflight Discussion
2. Flight

3. Postflight Discussion

Preflight Discussion

Prior to each flight, the instructor will provide the student with an overview of the subject matter to be covered during the lesson. The instructor should select a quiet, private place to brief the student and explain the lesson subject matter. It is important that the instructor define unfamiliar terms and explain the maneuvers and objectives of each lesson, since proper preparation of the student ensures progress during the lesson. The student should come to the preflight discussion with flight planning complete. This syllabus recommends one-half hour for preflight briefings.

Flight

Aircraft practice will be conducted so that the student will gain the maximum benefit from each flight. Each lesson will review previously learned concepts as they apply to new concepts being introduced. Completed and incomplete training items will be annotated at the appropriate level of participation by the student (D, P or DND) on the students NIFS Grade Sheet. During the flight, the student participation levels are defined as follows:

1. Demonstrate (D)— The CFI will demonstrate the maneuver or lesson topic with appropriate verbal instruction.
2. Perform (P) — The student accomplishes the required actions with CFI instruction.
3. Did Not Do (DND)— Training was not accomplished or incomplete.

Chapter 2 — Flight Lessons outlines the actions required during the lessons to achieve the learning objectives. These lists may not cover every action necessary for all flight training situations. For example, some flight schools may operate at an airport requiring flight plan actions on every flight versus only IFR flight.

For lessons 8-11, an instrument flight plan should be used. Although visual meteorological conditions (VMC) are acceptable for all flights, lesson 11 may be flown in instrument meteorological conditions (IMC) if necessary. All other flights may be flown in combination IMC/VMC as long as those activities requiring VMC can be completed. For example on sortie 12, if the visual navigation route is VMC, but the planned route and altitude for the return leg is IMC, the flight can still be accomplished.

Post-flight Discussion

The post-flight debriefing is equally as important as the preflight brief. During each post-flight session, the student must be thoroughly debriefed. This action is a valuable instructional technique because it increases retention and to some degree, prepares the student for the next lesson. This syllabus guidance recommends one-half hour for post-flight briefings.

Incomplete Lessons

Every attempt will be made to complete all lesson events in the allotted amount of flight time. Lesson events that cannot be completed shall be annotated as described above and should be covered in the next available lesson to the greatest extent possible as long as there is no increase in total flight time. Circumstances beyond the CFI's control may require events to be omitted because of time constraints. In this case, the order of precedence for events will be visual pilotage, dead reckoning, NAVAID orientation and tracking, Victor Airway operations, approaches, and then all others.

Chapter 2 - Lessons

Stage 1 — Orientation

Lesson 1

Dual — Local (0.5)

Lesson Objective — Introduce the student to the training airplane and airplane systems. The student will learn how to conduct the necessary preflight and post-flight activities, and be introduced to proper checklist procedures. The student will learn about the functions of the flight controls and how they are used to maintain specific attitudes.

Content

Preflight Discussion

Lesson Introduction

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Flight Planning (VFR)
- ___ Checklist Use
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Equipment Checks
- ___ Location of Emergency Equipment
- ___ Collision Avoidance

Flight

- ___ Engine Start
- ___ Radio Communications
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Straight-and-Level Flight (VR)
- ___ Climbs, Descents, and Level-offs (VR)
- ___ Medium-Banked Turns (VR)
- ___ Visual Traffic Pattern
- ___ Normal Approach (VR)
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student should be able to perform a pre-flight inspection of the training aircraft, be familiar with the training airplane and its associated systems and perform proper checklist procedures. The student should be introduced to straight and level flight, climbs, descents, turns, and the flight control inputs to produce these flight maneuvers.

Additional Guidance — This lesson should be accomplished similar to a private pilot student's first ride in the training aircraft. Divide the time equally between air work and landing/pattern familiarization.

Lesson 2

Dual — Local (1.0)

Lesson Objective — During this lesson, preflight activities from Lesson 1, especially ground operations and communications will be reviewed. The student will be introduced to attitude control maneuvers using visual references. The student will be introduced to additional procedures and maneuvers emphasizing safe flight operations in VFR conditions in and around the airport traffic area.

Content

Preflight Discussion

Lesson Review

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Flight Planning (VFR)
- ___ Checklist Use
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Radio Communications
- ___ Equipment Checks
- ___ Location of Emergency Equipment
- ___ Collision Avoidance

Lesson Introduction

- ___ Situational Awareness
- ___ Airport and Runway Markings
- ___ Collision Avoidance Maneuvers
- ___ Visual Reference Maneuvers
- ___ Flight at Approach Speed
- ___ Traffic Pattern

Flight

- ___ Engine Start
- ___ Radio Communications
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Steep Turns (VR)
- ___ Turns to Heading
- ___ Visual Traffic Patterns
- ___ Normal Approach (VR)
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student should be familiar with straight-and-level flight, climbs, descents, and turns using visual instrument references and the flight control inputs to produce these normal flight maneuvers. The student should demonstrate increased proficiency in pre-flight activities, ground operations, and coordinated airplane attitude control. The student should strive to be familiar with flight control usage necessary to maintain altitude within +/- 250 feet during airspeed and configurations changes.

Additional Guidance — This lesson should be accomplished similar to Lesson 1. Divide the time equally between air work and landing/pattern work. To the maximum extent possible, the student should be in control of the aircraft during all portions of the flight except landing.

Lesson 3

Dual — Local (1.0)

Lesson Objective — During this lesson, pre-flight activities from previous lessons will be reviewed. In-flight attitude control maneuvers using visual reference will be reinforced. The student will be introduced to slow flight, unusual attitudes, and stalls in VFR conditions to increase understanding of airplane control during normal and critical flight conditions. The student will be introduced to attitude control by instrument reference.

Content

Preflight Discussion

Lesson Review

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Flight Planning (VFR)
- ___ Checklist Use
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Equipment Checks
- ___ Location of Emergency Equipment
- ___ Collision Avoidance

Lesson Introduction

- ___ Airspeed and Configuration Changes
- ___ Aircraft Performance at Slow Airspeeds
- ___ Unusual Attitudes and Recovery
- ___ Characteristics of Stalls and Recovery
- ___ Characteristics of Spins and Recovery
- ___ Straight and Level Flight (IR)
- ___ Constant Airspeed Climbs and Descents (IR)

Flight

- ___ Engine Start
- ___ Radio Communications
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Steep Turns
- ___ Slow Flight
- ___ Power-Off Stalls
- ___ Power-On Stalls
- ___ Straight and Level Flight (IR)
- ___ Constant Airspeed Climbs and Descents (IR)

- ___ Turns to Heading (VR/IR)
- ___ Visual Traffic Pattern
- ___ Normal Approach (VR)
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will be familiar with the proper actions to counter unusual attitudes, stalls, and demonstrate familiarity with instrument referenced flight.

Additional Guidance — This local area flight should introduce unusual attitudes leading to stalls and the results of a stalled aircraft. Demonstrate, to the CFI's comfort level, the cues to identify an aircraft approaching a stalled condition, and while in a stalled condition, the proper procedures to recover from that condition. Emphasize correct and professional communications, timely and correct execution of checklists, and monitoring aircraft attitude instruments. To the maximum extent possible, the student should be in control of the aircraft during all portions of the flight except landing.

Lesson 4

Dual — Local Night (1.0)

Lesson Objective — During this lesson, the student will be introduced to equipment malfunctions and in-flight aircraft emergency procedures. The student will practice maneuvers to gain additional familiarity and demonstrate proficiency with stall recognition and recovery, as well as additional practice in visual and instrument referenced airplane attitude and altitude control.

Content

Preflight Discussion

Lesson Review

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Flight Planning (VFR)
- ___ Checklist Use
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Equipment Checks
- ___ Location of Emergency Equipment
- ___ Collision Avoidance
- ___ Characteristics of Unusual Attitudes and Recovery
- ___ Characteristics of Stalls and Recovery
- ___ Normal Takeoff and Landings
- ___ Traffic Pattern

Lesson Introduction

- ___ Minimum Equipment List
- ___ Systems and Equipment Malfunctions
- ___ Emergency Procedures
- ___ Flight at slow Airspeed with Realistic Distractions
- ___ Recognition and Recovery from a Stall Entered from Straight Flight and from Turns

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Takeoff and Climb
- ___ Radio Communications
- ___ Collision Avoidance
- ___ Power-Off Stalls
- ___ Power-On Stalls
- ___ Turns to Heading (VR/IR)

- __ Straight-and-Level Flight (VR/IR)
- __ Climbs, Descents, and Level-offs (VR/IR)
- __ Night Navigation and Orientation
- __ Visual Traffic Pattern
- __ Emergency Approach
- __ After Landing Procedures
- __ Parking and Securing

Completion Standards — At the completion of this lesson, the student will be familiar with flight emergencies and equipment malfunctions. The student will demonstrate correct communication in local area traffic pattern. The student will demonstrate increased proficiency in coordinated airplane attitude control during basic maneuvers, and increased familiarity with slow flight, stalls, stall recovery using both visual and instrument references.

Additional Guidance — Provide a good discussion of system malfunctions and proper ways to deal with distractions in flight. As much as possible, the student should be in control of the aircraft during all portions of the flight. Emphasize correct and professional radio communications, timely and correct execution of checklists, and monitoring aircraft attitude instruments. All preflight duties and procedures will be performed by the student and evaluated during remaining flights.

Lesson 5

Dual — Local (1.0)

Lesson Objective — During this lesson, the student will practice ground referenced maneuvers to determine wind direction, and instrument referenced maneuvers to maintain aircraft heading and altitude. Introduce the student to the wind triangle (winds aloft, drift, and course control). The student will practice flight at slow airspeed, and recover from stalls entered from straight and level flight and turns.

Content

Preflight Discussion

Lesson Review

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Checklist Use
- ___ Flight Planning (VFR)
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Equipment Checks
- ___ Aircraft Performance at Slow Airspeeds
- ___ Characteristics of Unusual Attitudes and Recovery
- ___ Characteristics of Stalls and Recovery
- ___ Normal Takeoff and Landings
- ___ Traffic Pattern

Lesson Introduction

- ___ Rectangular Course
- ___ S Turns
- ___ Turns Around a Point
- ___ Airplane Flight Instruments
- ___ NAVAID Use — Compass, ADF, VOR, VOR/DME, GPS (as equipped)
- ___ Visual Traffic Pattern

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Takeoff and Climb
- ___ Radio Communications
- ___ Straight-and-Level Flight (VR/IR)
- ___ Climbs, Descents, and Level-offs (VR/IR)
- ___ Rectangular Courses
- ___ S Turns

- ___ Turns Around a Point
- ___ NAVAID Orientation and Tracking (Compass, ADF, VOR, VOR/DME as equipped)
- ___ Traffic Patterns (VR)
- ___ Normal Approach
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will be familiar with the proper use of flight instruments and navigation aids available in the airplane. The student should be able to maintain altitude +/- 250 feet using either visual or instrument references. The student should demonstrate a rudimentary familiarity with wind direction and speed estimations using ground references.

Additional Guidance — This local lesson should emphasize visual and instrument orientation and tracking in preparation for cross country navigation. Accomplish as much NAVAID practice as possible, emphasizing proper use and interpretation in varying situations. Professional and correct communications, timely and correct execution of checklists, monitoring aircraft attitude instruments, as well as familiarity and competence in the landing pattern should be emphasized. To the maximum extent possible, the student should be in control of the aircraft during all portions of the flight except landing.

Lesson 6

Dual — Local (1.0)

Lesson Objective — During this lesson, the student will practice the use of visual and instrument navigation aids available in the airplane. Aircraft operation in the landing pattern will be reinforced.

Content

Preflight Discussion

Lesson Review

- ___ Sectional Charts
- ___ Airport and Runway Markings
- ___ Visual Traffic Pattern
- ___ Airplane Flight Instruments
- ___ NAVAID Use — Compass, ADF, VOR, VOR/DME, GPS (as equipped)

Lesson Introduction

- ___ Flight Planning IFR

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Takeoff and Climb
- ___ Radio Communications
- ___ Straight and Level Flight (VR/IR)
- ___ Climbs, Descents, and Level-offs (VR/IR)
- ___ Rectangular Courses
- ___ S Turns
- ___ Turns Around a Point
- ___ NAVAID Orientation and Tracking (Compass, ADF, VOR, VOR/DME as equipped)
- ___ Traffic Patterns (VR)
- ___ Visual Traffic Pattern
- ___ Normal Approach
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will be familiar with the proper use of navigation aids available in the airplane. The student should demonstrate familiarity with wind direction and speed estimations using ground references.

Additional Guidance — This lesson should be accomplished similar to lesson five. Continue the NAVAID orientation and tracking. Introduce other NAVAIDs as available and the student's ability. Continue emphasis on correct communications, instrument scan, checklist initial and completion, and familiarity in the landing pattern. To the maximum extent possible, the student should be in control of the aircraft during all portions of the flight except landing.

Lesson 7

Dual — Local (1.0)

Lesson Objective — During this lesson, the student will practice visual pilotage and dead reckoning through a predetermined visual navigation route. During this lesson, introduce the student to instrument approaches, the National Airspace System, and flight publications.

Content

Preflight Discussion

Lesson Review

- __ Airplane Flight Instruments
- __ Flight Planning (IFR)
- __ NAVAID Use — Compass, VOR, VOR/DME, GPS (as equipped)

Lesson Introduction

- __ ATC Light Signals
- __ National Airspace System (controlled and uncontrolled airspace)
- __ Flight Publications (Airport Facilities Directory, Instrument Approach Book)
- __ Controlled Airports
- __ Weather Information Sources
- __ Instrument Approaches (VOR, VOR/DME, ILS, GPS, as equipped)

Flight

- __ Engine Start
- __ Taxiing Procedures
- __ Before Takeoff Check
- __ Takeoff and Climb
- __ Radio Communications
- __ Straight and Level Flight (IR/VR)
- __ Climbs, Descents, and Level Offs (VR/IR)
- __ Rectangular Courses
- __ Turns Around a Point
- __ Instrument Approaches (VOR, VOR/DME, ILS, GPS)
- __ Use of ATIS/ASOS/AWOS
- __ Use of Approach and Departure Control
- __ Multiple Approaches
- __ After Landing Procedures
- __ Parking and Securing

Completion Standards — At the completion of this lesson, the student will demonstrate proficiency in determining own aircraft positioning using visual reference and navigating a simple visual course using drift corrected heading to maintain course. The student will demonstrate familiarity with instrument approach procedures, and proficiency in calculating wind direction and speed using ground references. Given a wind heading/speed estimate, the student will estimate ground speed and apply it toward estimating time of arrival at a point.

Additional Guidance — Proper flight planning is key. The student should plan the flight by drawing a three-leg course. If practical, utilize navigation aids to determine the start point of the visual navigation route. Flight over the visual navigation route at a minimum safe altitude is preferred. However, fly the route at an altitude commensurate with the FAR, environmental conditions, and CFI's comfort level. Concentrate the instruction on the effects of wind on course control and utilizing ETA adjustments for position awareness. This lesson is the student's first exposure to instrument approaches. The student should be able to determine the prescribed flight path courses and altitude from an approach plate. Fly as many instrument approaches procedures from the Initial Approach Fix to the Missed Approach Point as practical. The student should transition from physically controlling the aircraft to verbally directing the navigation, assuming responsibility for all radio communications, checklists, operate and monitor aircraft navigation and communication equipment, and maintain constant instrument scan.

Stage 2 - Instrument Navigation

Lesson 8

Dual — Local (1.5)

Lesson Objective — During this lesson, introduce the student to instrument departures and review instrument approaches.

Content

Preflight Discussion

Lesson Review

- ___ ATC Light Signals
- ___ National Airspace System (controlled and uncontrolled airspace)
- ___ Flight Publications (Airport Facilities Directory, Instrument Approach Book)
- ___ Controlled Airports
- ___ Flight Planning (IFR)
- ___ Weather Information Sources
- ___ Instrument Approaches (VOR, VOR/DME, ILS, GPS as equipped)

Lesson Introduction

- ___ Instrument Departures (VOR, VOR/DME, ILS, GPS as equipped)

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Takeoff and Climb
- ___ Instrument Departure (VOR, VOR/DME, ILS, GPS as equipped and available)
- ___ Radio Communications
- ___ Instrument Approaches (VOR, VOR/DME, ILS, GPS as equipped)
- ___ Use of ATIS/ASOS/AWOS
- ___ Use of Approach and Departure Control
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will demonstrate familiarity with instrument departures and greater proficiency with instrument approach procedures. The student will demonstrate proficiency in calculating wind direction and speed using ground references. Given a wind heading/speed estimate, the student will calculate aircraft ground speed and apply it toward estimating time of arrival at a point.

Additional Guidance — This lesson exposes the student to instrument departure procedures. The student will execute multiple instrument departures and approaches. If there are no instrument departures within a practical distance, extra attention should be placed on this training objective on the ground during pre-flight brief/debrief. Complete the lesson with multiple instrument approaches as a review of lesson 7. The student should continue the transition from physically controlling the aircraft to verbally directing the navigation, assuming responsibility for all radio communications, checklists, operate and monitor aircraft navigation and communication equipment, and maintain constant instrument scan.

Lesson 9

Dual — Day Instrument (1.5)

Lesson Objective — During this lesson, introduce the student to instrument navigation on a cross-country flight. The student will be exposed to planning and conducting a local instrument departure, airways navigation and approach.

Content

Preflight Discussion

Lesson Review

- ___ Airplane Flight Instruments
- ___ Compass Use
- ___ NAVAID Use — VOR, VOR/DME, GPS (as equipped)
- ___ National Airspace System
- ___ Flight Planning (IFR)
- ___ NAVAID Use for Instrument Approaches (VOR, VOR/DME, ILS, GPS)

Lesson Introduction

- ___ Route selection
- ___ Victor Airway Navigation
- ___ Performance and Limitations
- ___ Navigation Log
- ___ Cockpit Management
- ___ Aeromedical Factors

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Radio Communications
- ___ Opening Flight Plan
- ___ Instrument Departure (if available)
- ___ Flight on Federal Airways
- ___ Course Interception (Victor Route if available)
- ___ VOR Navigation
- ___ Estimates of Groundspeed and ETA
- ___ Position Fix by Navigation Facilities
- ___ Normal Approach (IFR if available) at Departure Airport
- ___ After Landing Procedures
- ___ Closing Flight Plan
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will demonstrate proficiency with instrument departures, airways navigation, and instrument approaches to a local field. The student will demonstrate proficiency in calculating wind direction and speed using ground references. Given a wind heading and speed, the student will calculate own aircraft ground speed and apply it toward estimating time of arrival at a point.

Additional Guidance — Utilize Victor Airways to the greatest extent possible for the enroute navigation portions of this flight. Where Victor Airways are unavailable, predetermine a navigation aid course (e.g., VOR radial) to track enroute. Maximum use of navigation instruments is desired as the situational awareness builder for this flight. The student should verbally direct the navigation, assuming responsibility for all radio communications, checklists, operate and monitor aircraft navigation and communication equipment, while maintaining instrument scan.

Lesson 10

Dual — Local Night (2.0)

Lesson Objective — During this lesson, introduce the student to night flying operations. The student will learn how to conduct the necessary pre-flight and post-flight activities and be introduced to aeromedical factors and flight planning considerations for night instrument flight.

Content

Preflight Discussion

Lesson Review

- ___ Certificates and Documents
- ___ Airplane Logbooks
- ___ Checklist Use
- ___ Flight Planning (VFR)
- ___ Preflight Inspection
- ___ Systems Operation
- ___ Equipment Checks
- ___ Equipment Checks
- ___ Location of Emergency Equipment
- ___ Collision Avoidance

Lesson Introduction

- ___ Aeromedical Factors
- ___ Night Vision
- ___ Disorientation
- ___ Visual Illusions
- ___ Night Scanning/Collision Avoidance
- ___ Night Navigation and Orientation
- ___ Airplane, Airport, and Obstruction Lighting
- ___ Flight Planning Considerations
- ___ Fuel Requirements
- ___ Personal Equipment

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Radio Communications
- ___ Straight and Level Flight (VR/IR)
- ___ Climbs, Descents, and Level Offs (VR/IR)
- ___ Night Navigation and Orientation

- ___ Visual Traffic Pattern
- ___ Normal Approach and Landing
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will demonstrate familiarity with night flying operations. The student will demonstrate proficiency in calculating wind speed and direction using ground references. Given a wind heading and speed estimate, the student will calculate own aircraft ground speed and apply it toward estimating time of arrival at a point.

Additional Guidance — Accomplish this lesson so the student can see the differences in visual references at night. Limit the time in the traffic pattern to no more than two landings in order to maximize the night navigation and orientation objective. The student will verbally direct the navigation, assuming responsibility for all radio communications, checklists, operation and monitor aircraft navigation and communication equipment, and maintain constant instrument scan.

Lesson 11

Dual — Cross-Country (2.0)

Lesson Objective — During this lesson, the student will be exposed to a flight profile which includes a simple visual navigation route, an instrument approach to an airport approximately 50 nm from the departure airport, an instrument departure (if available), Victor Airway navigation back to the departure airport, and an instrument approach (if available) at the departure airport.

Content

Preflight Discussion

Lesson Review

- ___ National Airspace System
- ___ Flight Publications
- ___ Sectional Charts
- ___ Navigation Route Selection
 - Minimum 4 Visual Check Points (start point, 2 turn points, and end point)
 - 4 Instrument Points
- ___ Fuel Requirements
- ___ Aircraft Performance and Limitations
- ___ Minimum of four visual check points (start point, two turn points, and an end point)
- ___ Turns greater than 30 degrees between legs
- ___ Course Control Concepts
- ___ Wind Effects on Groundspeed
- ___ Airspeed to Groundspeed Conversion
- ___ ETA calculations and Updates

Flight

- ___ Engine Start
- ___ Taxiing Procedures
- ___ Before Takeoff Check
- ___ Normal Takeoff and Climb
- ___ Radio Communications
- ___ Course Intercept to Navigation Route Start Point
- ___ Visual Navigation Route
- ___ Instrument Approach and Landing (if available)
- ___ Instrument Departure (if available)
- ___ Victor Airway Route (if available)
- ___ Instrument Approach at Home Field (if available)
- ___ After Landing Procedures
- ___ Parking and Securing

Completion Standards — At the completion of this lesson, the student will be familiar with entry to and navigation through a simple visual navigation route, instrument approach, instrument departure and Victor Airways navigation. The student will demonstrate proficiency in calculating wind direction and speed using ground references. Given a wind heading /speed estimate, the student will calculate own aircraft ground speed and apply it toward estimating time of arrival at a point.

Additional Guidance — This lesson combines all of the objectives of earlier lessons. The student should prepare a flight plan, draw a visual navigation route toward an airport with an instrument approach followed by a return route using Victor Airways. If desired, file two flight plans and make an intermediate stop at the outlying airport prior to the return leg. The student shall verbally direct aircraft navigation, assume responsibility for all radio communications, initiate and complete all preflight and in-flight checklists, operate and monitor aircraft navigation and communication equipment, and maintain a constant instrument scan.

Chapter 3 - Training Documentation

Task Accomplishment — Document task accomplishment on the NIFS grade sheet using the following grades:

- a. **Demonstrated (D)** — Enter D on the record of training when the CFI demonstrates the maneuver.
- b. **Performed (P)** — Enter P on the record of training if the student performs the operation, maneuver or task normally at the aircraft controls with instructor input.
- c. **Did Not Do (DND)** - Enter DND on the record of training if the maneuver was not accomplished or completed.

Course Training Standards — All tasks are required to be demonstrated (D) as a minimum to complete this program. Refer to FAA Private Pilot Practical Test Standards (FAA-S-8081-14) and FAA Instrument Rating Practical Test Standards (FAA-S-8081-4C) for a description of individual tasks and objectives.

Duties and Responsibilities — The student will accomplish the following:

- a. Participate in planning the mission.
- b. Ensure the airplane is inspected, preflighted, and serviced to perform the assigned mission.
- c. Operate as a crewmember/pilot to perform the mission using sound judgment and demonstrating situational awareness.

Chapter 4 - Administration

Duration — To meet time-to-train goals, eligible service selected SNFOs (midshipmen) at NROTC units/consortiums and the USNA should complete this training before commissioning and shall complete within 65 days of the date of enrollment. Service selected SNFOs who start NIFS during the academic year and finish post-commissioning (65 day program) shall complete within 100 days of enrollment. Post commissioned SNFOs in Pensacola, Quantico, NROTC units and the Naval Academy shall complete this training within 40 days of enrollment. Regular leave during NIFS is discouraged, but the limits above exclude holiday and emergency leave. These enrollment limits include days lost for inclement weather and nominal pilot school aircraft maintenance practices.

Course Entry Prerequisites — All Naval Flight Officer candidates will participate and successfully complete the NIFS syllabus. Students with a FAA recreational private pilot certificate (or higher) or former military rated pilots are not eligible for this program.

Device/Flying Training — The times specified are actual mission times and do not include the time for briefing or debriefing.

<i>a. Single-Engine Land Airplane</i>	<i>Lessons/Approx</i>
<i>Hours</i>	
Stage 1 - Orientation	7/ 6.5 (Dual)
<u>Stage 2 – Instrument Navigation</u>	<u>4/ 7.0 (Dual)</u>
<i>Total</i>	11/13.5

Ground Training

- a. FAA Ground School and Examination — Use the flight school's advertised ground school program as long as the student can complete within the applicable programs calendar day time limit. If able, the preferred method is a formal classroom course. Ground school can be conducted in any FAA approved format or one-on-one instruction. Students will take the practice FAA Private Pilot License (PPL) written knowledge test included with the ground school to complete this element of training.
- b. Flight lesson Briefing and Debriefing allows for 11.0 hours.

Training Requirements and Restrictions

- a. *Average Hours/Events* — This syllabus permits the student to complete the course objectives in 13.5 flying hours. The flying hours reflect an estimate of the flight time required to complete the prescribed profiles. There may be slight differences in flight time requirements because of airspace or other physical considerations. However, every effort must be made to complete the flight profiles in the allotted times.

b. *Maximum/Minimum Hours* — Thirteen and one-half hours (13.5 HRS) is the maximum hours allowed in the NIFS program. A student must fly over twelve and one-half (12.5) hours to complete. Any hours beyond the 13.5 hour limit are the student's personal financial responsibility. Waiver requests to maximum or minimum hours must be submitted IAW CNATRAINST 3501.2 for program continuation. Students unable to meet requirements within the maximum hour requirements are subject to a command review board, with written input from the pilot school Chief Flight Instructor, to determine their motivation and suitability for further training.

c. *Lesson Lengths* — Lessons and approximate flying hours are listed below. Adhere to the approximate time per lesson as closely as possible. For each lesson, one additional hour is allotted for briefing and debriefing combined.

<i>Lesson</i>	<i>Flight Time</i>	<i>Brief & Debrief</i>	<i>Total Time</i>
1	0.5	1.0	1.5
2	1.0	1.0	2.0
3	1.0	1.0	2.0
4	1.0	1.0	2.0
5	1.0	1.0	2.0
6	1.0	1.0	2.0
7	1.0	1.0	2.0
8	1.5	1.0	2.5
9	1.5	1.0	2.5
10	2.0	1.0	3.0
11	2.0	1.0	3.0
<i>Total</i>	<i>13.5</i>	<i>11.0</i>	<i>24.5</i>

d. *Maximum Daily Student Flying Activities* — Students should not exceed two flights and or four hours of flight time per day. It is recommended that flights not exceed two hours and that a 30 minute break between flights be allowed.

e. *Extracurricular Flying* — NIFS students are encouraged to participate in additional flying training (e.g. FAA private pilot training) at no expense to the government. NIFS training objectives will be the primary focus of government purchased flying time. However, since many NIFS training objectives are transferable to obtaining FAA private pilot certification, students are encouraged to use this opportunity to further their flight training at their own expense.

Syllabus Distribution — The NIFS Program Manager at NAVAVSCOLSCOM will make this syllabus available by electronic format for pilot schools, instructors and students participating in NIFS.

Drop On Request (DOR) — Students can remove themselves from training by dropping on request. When students DOR, refer them to their supervisor. Supervisors will counsel the student on the implications of DOR and future flight training. Supervisors will remove the student from the NIFS program and notify the NIFS Program Manager for appropriate action.

Syllabus Interpretation — This syllabus is directive in nature and shall be followed to the greatest extent practicable. If there are questions in regard to this syllabus, or no clear guidance exists, contact the NIFS course manager at DSN 922-5556, commercial (850) 452-5556 or 3423.

Chapter 5 - Recommended Materials

1. Private Pilot Kit (may include)

- a. Private Pilot Manual
- b. Maneuvers Book
- c. Private Pilot FAA Airman Knowledge Study Guide and Question Bank
- d. Private Pilot FAA Practical Test Study Guide
- e. E-6B Computer
- f. Plotter
- g. FAR/AIM Book
- h. Logbook

2. Other Items (as required)

- a. Headset
- b. Sectional Charts
- c. Instrument Approach Procedures Book
- d. Ground School Videos/CD ROM Course (if not enrolled in formal classroom environment)