
# Instrument Pilot Rating Course (ASEL) Ground Training Syllabus

# FAR Part 141

# LIST OF EFFECTIVE PAGES

| SECTION: | PAGE: | TITLE: | REV #: | DATE: |
|---|---|---|---|---|
| | 1 of 1 | List of Effective Pages | Orig | 10/01/2007 |
| | 1 of 4 | Introduction | Orig | 10/01/2007 |
| | 2 of 4 | Introduction | Orig | 10/01/2007 |
| | 3 of 4 | Introduction | Orig | 10/01/2007 |
| | 4 of 4 | Introduction | Orig | 10/01/2007 |
| I | 1 of 11 | Stage I | Orig | 10/01/2007 |
| I | 2 of 11 | Lesson # 301 | Orig | 10/01/2007 |
| I | 3 of 11 | Lesson # 302 | Orig | 10/01/2007 |
| I | 4 of 11 | Lesson # 302 Continued | Orig | 10/01/2007 |
| I | 5 of 11 | Lesson # 303 | Orig | 10/01/2007 |
| I | 6 of 11 | Lesson # 304 | Orig | 10/01/2007 |
| I | 7 of 11 | Lesson # 304 Continued | Orig | 10/01/2007 |
| I | 8 of 11 | Lesson # 305 | Orig | 10/01/2007 |
| I | 9 of 11 | Lesson # 306 | Orig | 10/01/2007 |
| I | 10 of 11 | Lesson #307 | Orig | 10/01/2007 |
| I | 11 of 11 | Lesson #307 Continued | Orig | 10/01/2007 |
| II | 1 of 7 | Stage II | Orig | 10/01/2007 |
| II | 2 of 7 | Lesson # 308 | Orig | 10/01/2007 |
| II | 3 of 7 | Lesson # 309 | Orig | 10/01/2007 |
| II | 4 of 7 | Lesson # 310 | Orig | 10/01/2007 |
| II | 5 of 7 | Lesson # 311 | Orig | 10/01/2007 |
| II | 6 of 7 | Lesson # 311 Continued | Orig | 10/01/2007 |
| II | 7 of 7 | Lesson # 312 | Orig | 10/01/2007 |
| III | 1 of 4 | Stage II I | Orig | 10/01/2007 |
| III | 2 of 4 | Lesson # 313 | Orig | 10/01/2007 |
| III | 3 of 4 | Lesson # 314 | Orig | 10/01/2007 |
| III | 4 of 4 | Lesson # 315 | Orig | 10/01/2007 |

# TECH AVIATION FLIGHT SCHOOL, INC.

# APPROVED SCHOOL CERTIFICATE #TVMS353S

# INSTRUMENT PILOT CERTIFICATION COURSE
# AIRPLANE SINGLE-ENGINE LAND (ASEL)
# GROUND TRAINING SYLLABUS

***PRINT STUDENT NAME:***

_____

**LAST NAME, FIRST NAME**

_____/_____/_____
**DATE (mm/dd/yyyy)**

## INTRODUCTION

This ground training syllabus is designed to allow the pilot applicant to acquire the aeronautical knowledge needed to safely operate as an Instrument Rated Pilot and satisfactorily complete the Instrument Pilot Knowledge Test.

Within this syllabus, there are three stages and fifteen separate lessons, each with stated objectives and completion standards that must be satisfied in order for the lesson to be complete. Adequate knowledge of the specified study material is necessary for satisfactory progress in the individual lessons and for overall progress in the course. The individual lesson times are not mandatory. The hours in each lesson are primarily for instructor and student guidance. Total specified training hours at the end of the course completion must be met (30 hours).However, before a student can receive a logbook endorsement or a ground school completion certificate, the sequence of lessons, including the course completion examination, must be satisfactorily completed.

Every lesson contains a training outline and a detailed list of items that the student must successfully complete. Normally, a lesson is complete in this allotted time. If a student is unable to master the lesson in the specified time, it is necessary to repeat all or portion of the lesson until completion standards are met.

This syllabus has lesson evaluations that check the student's progress. The course completion check at the end of this course assures that the student acquired the aeronautical knowledge required to satisfactorily complete the FAA Instrument Pilot (ASEL) Knowledge Test. The examination questions are extracted from the current FAA Instrument Pilot Knowledge Test questions in appropriate subject matter areas, or a reasonable facsimile.

A record of the ground training received, shall be formally documented on a chronological log of student attendance, including lessons covered, and names and grades of any tests taken.

## TRAINING SYLLABUS

**I.** ENROLLMENT PREREQUISITES: There are no specific requirements to enroll in this ground training course. The applicant must hold a current private pilot certificate with an airplane single-engine land category and class rating prior to beginning the flight portion of the course. There are no prerequisites for beginning the ground training portion of this course.

II. GRADING CRITERIA
FOR THE STUDENT AND INSTRUCTOR:

I. The overall performance grade for each lesson completed is based on the evaluation assignments, knowledge, preparation, skill, attitude, and judgment of the student.

II. Grading criteria is to be based upon the building block method of instruction. A lesson is not complete unless the instructor is satisfied with the student's performance in all areas, and awards the student a grade of Satisfactory (S) or 80% or higher on the entire lesson. The above criteria should be used as a guideline for this assessment. Students will demonstrate satisfactory knowledge of lesson content and achievement of lesson objectives by active participation in class discussion and by correctly answering the instructor's verbal and written questions. Minimum passing score on the course completion examination is 80%. Incorrect responses shall be corrected to reinforce and ensure student understanding.

## GROUND TRAINING LOG

Student Name:_____

| | Lesson Time (h:min) | Actual Time Completed | Date Completed | Grade | Instructor Signature |
|---|---|---|---|---|---|
| 301 | 1:30 | | | | |
| 302 | 2:30 | | | | |
| 303 | 2:00 | | | | |
| 304 | 2:00 | | | | |
| 305 | 2:00 | | | | |
| 306 | 2:00 | | | | |
| 307 □ | 2:00 | | | | |
| 308 | 2:00 | | | | |
| 309 | 2:00 | | | | |
| 310 | 2:00 | | | | |
| 311 | 2:00 | | | | |
| 312 □ | 2:00 | | | | |
| 313 | 2:00 | | | | |
| 314 | 2:00 | | | | |
| 315□□ | 2:00 | | | | |
| Total | 30:00:00 | | | | |

√ Denotes Stage Check
♦ Denotes End of Course Check

# STAGE I

## STAGE OBJECTIVE

During this stage, the student will review Instrument systems, Instrument Navigation, airports, airspace, flight information, departure, enroute, arrival, and approach procedures. In addition, the student will gain a greater understanding of what it means to fly by reference to flight instruments.

## STAGE COMPLETION STANDARDS

This stage is complete when the student's cumulative lesson evaluations equal a minimum passing score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the student progresses to Stage II.

LESSON 301: (1.5 Hours, Ground Instruction)

I. OBJECTIVE:

- Review knowledge of private pilot privileges.
- Become familiar with advanced pilot training and opportunities.
- Gain an understanding of the advanced human factors concepts related to aviation.

II. ACADEMIC CONTENT: CHECK LIST

Course Overview:
- Course Elements _____
- Course Material _____
- Exams and Tests _____
- Policies and Procedures _____

Instrument Training and Opportunities:
- Instrument Flight _____
- Instrument Training _____

Advanced Human Concepts
- Aeronautical Decision Making _____
- Crew Resource Management _____
- The Decision-Making Process _____
- Pilot in Command Responsibilities _____
- Communications _____
- Resource Use _____
- Workload Management _____
- Situational Awareness _____

Aviation Physiology
- Spatial Disorientation _____
- Vestibular Disorientation _____
- Motion Sickness _____
- Hypoxia _____
- Prevention of Hypoxia _____
- Decompression Sickness _____
- Hyperventilation _____
- Stress _____
- Fatigue _____
- Alcohol and Drug _____
- Fitness for Flight _____

III. COMPLETION STANDARDS:

- Demonstrate understanding of human factors, instrument training, and aviation physiology.
- Demonstrate understanding of the instrument ground training course.

LESSON 302: (2.5 Hours, Ground Instruction)

I. OBJECTIVE:

- Gain a working knowledge of the function and use of the flight instrument components and systems.
- Become familiar with limitations and common errors of the flight instrument systems and components
- Review the basic principles of attitude instrument flying.
- Gain a working knowledge of the instrument cockpit check.
- Become familiar with instrument system failures and partial panel procedures.

| II. ACADEMIC CONTENT: | CHECK LIST |
|---|---|
| Flight Instrument Systems: | |
| FAA Instrument Requirements | _____ |
| Pilot's Operating Handbook | _____ |
| Gyroscopic Flight Instruments | _____ |
| System Operation | _____ |
| System Errors | _____ |
| Instrument Check | _____ |
| Magnetic Compass | _____ |
| System Operation | _____ |
| System Errors | _____ |
| Instrument Check | _____ |
| Pitot-Static Instruments | _____ |
| System Operation | _____ |
| System Errors | _____ |
| Instrument Check | _____ |
| Attitude Instrument Flying: | |
| Instrument Cross-Check | _____ |
| Instrument Interpretation | _____ |
| Aircraft Control | _____ |
| Primary / Support Concept | _____ |
| Control and Performance | _____ |
| Basic Flight Maneuvers | _____ |
| Straight-and-Level | _____ |
| Standard-Rate Turns | _____ |
| Steep Turns | _____ |
| Constant Airspeed Climbs | _____ |
| Constant Rate Climbs | _____ |
| Constant Airspeed Descents | _____ |
| Constant Rate Descents | _____ |
| Level off from Climbs and Descents | _____ |
| Climbing and Descending Turns | _____ |
| Stalls | _____ |

LESSON 302: (continued)

| | |
|---|---|
| Instrument Failures | _____ |
| Identifying and Instrument Failure | _____ |
| Attitude Indicator Failure | _____ |
| Heading Indicator Failure | _____ |
| Partial Panel Flying | _____ |
| Magnetic Compass Turns | _____ |
| Timed Turns | _____ |
| Pitot-Static Instrument Failures | _____ |
| Unusual Attitude Recovery | _____ |
| Nose-High Attitude | _____ |
| Nose-Low Attitude | _____ |
| Partial Panel Unusual Attitude Recovery | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of IFR instrument requirements as well as instrument flight systems, instrument operations, and instrument errors.
- Demonstrates understanding of basic attitude instrument flight.
- Exhibits knowledge of partial panel instrument flight procedures.

LESSON 303: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Learn the function, use, and limitations of VOR, DME, and ADF radio equipment for navigation.
- Become familiar with other types of instrument navigation including RNAV and GPS.

II. ACADEMIC CONTENT: CHECK LIST

Instrument Navigation:

| | |
|---|---|
| VOR Navigation | _____ |
| Internal workings of VOR | _____ |
| Horizontal Situation Indicator | _____ |
| Intercepting a Radial | _____ |
| Tracking | _____ |
| Determining Your Progress | _____ |
| Time and Distance to a Station | _____ |
| Station Passage | _____ |
| VOR Limitations | _____ |
| Distance Measuring Equipment | _____ |
| DME Arcs | _____ |
| ADF Navigation | _____ |
| Internal workings of ADF | _____ |
| Radio Magnetic Indicator | _____ |
| Intercepting a Bearing | _____ |
| Tracking | _____ |
| Time and Distance to a Station | _____ |
| Station Passage | _____ |
| Operational Considerations | _____ |
| Ground Facilities | _____ |
| VOR Checks | _____ |
| Identification | _____ |
| RNAV / GPS / INS | _____ |
| Internal workings of RNAV | _____ |
| Internal workings of GPS | _____ |
| Internal workings of INS | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of the use and limitations of navigation systems.

LESSON 304: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Study and become familiar with the airport environment, including collision avoidance, and runway incursion avoidance.
- Gain specific knowledge of the National Airspace System
- Gain a basic understanding of the sources of flight information, particularly the Aeronautical Information Manual and FAA Advisory Circulars dealing with IFR flight.
- Learn the types of services provided by air traffic control systems.
- Become familiar with the various enroute and terminal facilities and their use for flight under IFR.

II. ACADEMIC CONTENT: CHECK LIST

Airports, Airspace, and Flight Information:

| | |
|---|---|
| Airports | _____ |
| Runway Markings | _____ |
| Taxiway Markings | _____ |
| Airport Signs | _____ |
| Runway Incursion Avoidance | _____ |
| Land and Hold Short Operations | _____ |
| Approach Light Systems | _____ |
| Approach Light System | _____ |
| Visual Glide Slope Indications | _____ |
| Runway Lighting | _____ |
| Airport Beacon and Obstruction Lights | _____ |
| Airspace | _____ |
| Controlled Airspace | _____ |
| Class A, B, C, D, and E | _____ |
| Special VFR | _____ |
| Class G Airspace | _____ |
| Aircraft Special Limits | _____ |
| Special Use Airspace | _____ |
| Other Airspace Areas | _____ |
| ADIZ | _____ |
| Flight Information | _____ |
| Aeronautical Information Manual | _____ |
| Airport / Facility Directory | _____ |
| Notices to Airman (NOTAMs) | _____ |
| International Flight Information Manual | _____ |
| Advisory Circulars | _____ |

LESSON 304: (Continued)

Air Traffic Control System & Procedures for Instrument Flight Operations:

| | |
|---|---|
| Air Route Traffic Control Center | _____ |
| ARTCC Traffic Separation | _____ |
| Processing the IFR Flight Plan | _____ |
| Weather Information | _____ |
| Safety Alerts | _____ |
| Emergency Assistance | _____ |
| Terminal Facilities | _____ |
| ATIS | _____ |
| Clearance Delivery | _____ |
| Control Tower | _____ |
| Approach and Departure | _____ |
| Radar Services for VFR Aircraft | _____ |
| Flight Service Stations | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of airport environment and lighting, as well as airspace usage and sources of flight information.
- Demonstrate understanding of enroute and terminal ATC services.

LESSON 305: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Learn the format and symbology used to present information on departure and arrival charts.
- Gain a working knowledge of departure and arrival procedures.

II. ACADEMIC CONTENT: CHECK LIST

Departures:
- Departure Charts _____
  - Obtaining Charts _____
  - Departure Standards _____
  - Instrument Departure Procedures _____
  - Standard Instr. Departures _____
  - Pilot Nav DP _____
  - Vector DP _____
  - Chart Format and Symbology _____
- Departure Procedures _____
  - Takeoff Minimums _____
  - Departure Options _____
  - Graphic Departure Procedures _____
  - Textual Departure Procedures _____
  - Radar Departures _____
  - VFR Departures _____
  - Selecting a Departure Method _____

Arrivals:
- Arrival Charts _____
  - Standard Terminal Arrival Route _____
  - Interpreting the STAR _____
  - Vertical Navigation Planning _____
- Arrival Procedures _____
  - Preparing for the Arrival _____
  - Reviewing the Approach _____
  - Altitude _____
  - Airspeed _____

III. COMPLETION STANDARDS:

- Demonstrate understanding of instrument departure and arrival procedures and related considerations.

LESSON 306: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Gain a working knowledge of enroute and area charts.
- Learn the symbology used to present information and the applicable procedures for IFR enroute operations.
- Gain working knowledge of holding patterns including entry, timing, and communication.

II. ACADEMIC CONTENT: CHECK LIST

Enroute:

| | |
|---|---|
| Enroute and Area Charts | _____ |
| Enroute Charts | _____ |
| Front Panel | _____ |
| Navigation Aids | _____ |
| Victor Airways | _____ |
| Communication | _____ |
| Airports | _____ |
| Airspace | _____ |
| Area Charts | _____ |
| Enroute Procedures | _____ |
| Enroute Radar Procedures | _____ |
| Communications | _____ |
| Reporting Procedures | _____ |
| Enroute Navigation Using GPS | _____ |
| Special Use Airspace | _____ |
| IFR Cruising Altitude | _____ |
| Descending From the Enroute Segment | _____ |

Holding:

| | |
|---|---|
| Holding Procedures | _____ |
| Standard and Nonstandard Patterns | _____ |
| Outbound and Inbound Timing | _____ |
| Crosswind Correction | _____ |
| Maximum Holding Speed | _____ |
| Direct Entry | _____ |
| Teardrop Entry | _____ |
| Parallel Entry | _____ |
| Visualizing Entry Procedures | _____ |
| ATC Holding Instructions | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of enroute charts as well as enroute navigation and communication procedures.
- Demonstrate understanding of holding entry and procedures.

LESSON 307: (2.0 Hours, Ground Instruction)

IV. OBJECTIVE:

- Begin to learn how to interpret and use information published on instrument approach charts.
- Learn the procedures used to transition from the enroute segment to the approach segment.
- Increase understanding and knowledge of approach procedures.

V. ACADEMIC CONTENT: CHECK LIST

Approach Charts:

| | |
|---|---|
| Approach Segments | _____ |
| Initial Approach Segment | _____ |
| Intermediate Approach Segment | _____ |
| Final Approach Segment | _____ |
| Missed Approach Segment | _____ |
| Chart layout | _____ |
| Heading Section | _____ |
| Briefing Information | _____ |
| Minimum Safe Altitude | _____ |
| Plan View | _____ |
| Profile View | _____ |
| Step Down Fix VDP | _____ |
| Missed Approach Icons | _____ |
| Conversion Table | _____ |
| Landing Minimums | _____ |
| Aircraft Approach Categories | _____ |
| Minimum Descent Requirements | _____ |
| Visibility Requirements | _____ |
| Inoperative Components | _____ |
| Airport Chart | _____ |
| Heading and Communication Sections | _____ |
| Plan View and Additional Runway Info. | _____ |
| Takeoff and Alternate Minimums | _____ |

LESSON 307: (2.0 Hours, Continued)

Approach Procedures:

| | |
|---|---|
| Preparing for the Approach | _____ |
| Approach Chart Review | _____ |
| Approach Clearance | _____ |
| Executing the Approach | _____ |
| Straight-In Approaches | _____ |
| Use of ATC Radar for Approaches | _____ |
| Approaches with a Required Course Reversal | _____ |
| Timed Approaches From Holding Fix | _____ |
| Final Approach | _____ |
| Circling Approaches | _____ |
| Sidestep Maneuver | _____ |
| Missed Approach Procedures | _____ |
| Visual and Contact Approaches | _____ |

VI. COMPLETION STANDARDS:

- Demonstrate understanding of approach operations and procedures.
- Demonstrate understanding of instrument approach charts.

# STAGE II

## STAGE OBJECTIVE

During this stage, the student will learn the specific elements of VOR, NDB, LOC, ILS and GPS Instrument Approach procedures and IFR Flight Planning. They will also expand their knowledge of meteorology, weather forecasting and weather interpretation.

## STAGE COMPLETION STANDARDS

This stage is complete when the student's cumulative lesson evaluations equal a minimum passing score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding.

LESSON 308: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Learn procedures and methods necessary to perform VOR and NDB approaches.

II. ACADEMIC CONTENT: CHECK LIST

Approach Procedures

| | |
|---|---|
| VOR | _____ |
| VOR Approach Procedures | _____ |
| Off-Airport Facilities | _____ |
| On-Airport Facilities | _____ |
| VOR / DME Approach Procedures | _____ |
| NDB | _____ |
| NDB Approach Procedures | _____ |
| Radar Vectors to the Approach | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of VOR and NDB approach procedure.
- Has working knowledge of approach chart symbology, information and layout.

LESSON 309: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Gain knowledge of ILS and LOC components and approach Procedures.
- Gain knowledge of GPS approaches.

II. ACADEMIC CONTENT: CHECK LIST

Precision Approaches:

ILS _____

- ILS Categories and Minimums _____
- ILS Components _____
- Inoperative Components _____
- Flying the ILS _____
- Straight-In (NoPT) ILS Approach _____
- ILS Approach with Course Reversal _____
- ILS/DME Approach _____
- Radar Vectors to ILS Final _____
- ILS Approach to Parallel Runways _____
- Simultaneous Converging Instrument App _____

Non-Precision Approaches:

LOC _____

- Localizer Approach _____
- Localizer Back Course Approach _____

LDA, SDF, and MLS _____

- Overview of LDA, SDF, and MLS _____

GPS _____

- GPS Approach _____

III. COMPLETION STANDARDS:

- Demonstrate understanding of the various methods of conducting and ILS approach.
- Demonstrate understanding of the LOC and GPS approach procedures.

LESSON 310: (2.0 Hours, Ground Instruction)

IV. OBJECTIVE:

- Become familiar with the factors affecting weather patterns and hazards related to flight operations.

V. ACADEMIC CONTENT: CHECK LIST

Weather Factors:

| | |
|---|---|
| The Atmosphere | _____ |
| Atmospheric Circulation | _____ |
| Pressure and Wind Patterns | _____ |
| Moisture, Precipitation, and Stability | _____ |
| Types of Clouds | _____ |
| Airmass | _____ |
| Fronts | _____ |
| High Altitude Weather | _____ |

Weather Hazards:

| | |
|---|---|
| Recognition of Critical Weather Situations | _____ |
| Thunderstorms | _____ |
| Thunderstorm Avoidance | _____ |
| Low Level Turbulence | _____ |
| Turbulence | _____ |
| Wake Turbulence | _____ |
| Clear Air Turbulence | _____ |
| Mountain Wave Turbulence | _____ |
| Reporting Turbulence | _____ |
| Wind Shear Detection and Avoidance | _____ |
| Low Visibility | _____ |
| Volcanic Ash | _____ |
| Icing | _____ |
| Hydroplaning | _____ |
| Cold Weather Operations | _____ |

VI. COMPLETION STANDARDS:

- Demonstrate understanding of weather factors and weather hazards.

LESSON 311: (2.0 Hours, Ground Instruction)

VII. OBJECTIVE:

- Learn to retrieve and interpret printed weather reports and forecasts.
- Understand the information displayed on graphic weather products and how to use each product.
- Learn How to access preflight and in-flight sources of weather information.
- Learn How to interpret and use weather information for planning and in-flight purposes.

VIII. ACADEMIC CONTENT: CHECK LIST

Printed Reports and Forecasts:

Reports _____
- Aviation Routine Weather Reports (METAR) _____
- Radar Weather Reports _____
- Pilot Weather Reports _____

Forecasts _____
- Terminal Aerodrome Forecast _____
- Aviation Area Forecast _____
- Winds and Temperatures Aloft Forecast _____
- Severe Weather Reports and Forecasts _____

Graphical Weather Products:

Reports _____
- Surface Analysis Charts _____
- Weather Depiction Charts _____
- Radar Summary Chart _____
- Satellite Weather Pictures _____
- Composite Moisture Stability Chart _____
- Constant Pressure Analysis Chart _____
- Observed Wind and Temperature Aloft Chart _____

Forecasts _____
- Low-Level Significant Weather Prog _____
- High-Level Significant Weather Prog _____
- Convective Outlook Chart _____
- Forecast Winds and Temperature Aloft Chart _____
- National Convective Weather Forecast _____
- Volcanic Ash Forecast Transport and Dispersion Chart ___

LESSON 311: (2.0 Hours, Continued)

Sources of Weather Information:
- Preflight Weather Sources _____
  - Personal Observation of Weather Conditions _____
  - Flight Service Station _____
  - Telephone Information Briefing Service _____
  - Direct User Access Terminal System _____
  - Private Industry Sources _____
  - The World Wide Web _____
- In-Flight Weather Sources _____
  - AIRMET's and SIGMETs _____
  - Convective SIGMETs _____
  - Enroute Flight Advisory Service _____
  - Flight Service Station _____
  - Center Weather Advisories _____
  - Hazardous In-Flight Weather Advisory Service _____
  - Transcribed Weather Observing System _____
  - Weather Radar Services _____
  - Automated Surface Observing System _____
  - Automated Weather Observing System _____

IX. COMPLETION STANDARDS:

- Demonstrate ability to interpret and integrate information presented in graphic weather products.
- Demonstrate understanding of preflight and in-flight weather sources and their uses.

LESSON 312: (2.0 Hours, Ground Instruction)

X. OBJECTIVE:

- Obtain the knowledge necessary to successfully plan an IFR Flight.

XI. ACADEMIC CONTENT: CHECK LIST

IFR Flight Planing:

| | |
|---|---|
| Route Selection | _____ |
| Flight Information Publications | _____ |
| Weather Considerations | _____ |
| Altitude Selection | _____ |
| Completing the Navigation Log | _____ |
| Filing the Flight Plan | _____ |
| Closing the IFR Flight Plan | _____ |

XII. COMPLETION STANDARDS:

- Demonstrate understanding of IFR flight planning and factors affecting IFR flight.

# STAGE III

## STAGE OBJECTIVE

During this stage, the student will review the elements of IFR flight covered in Stage I and II. They will also gain knowledge in the areas of IFR Emergencies, Decision Making and Federal Aviation Regulations.

## STAGE COMPLETION STANDARDS

This stage is complete when the student's cumulative lesson evaluations equal a minimum passing score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding.

LESSON 313: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Learn to recognize emergency situations and perform the correct emergency procedures.
- Obtain the knowledge necessary to make effective decisions.

II. ACADEMIC CONTENT: CHECK LIST

IFR Decision Making
- Aeronautical Decision Making and Judgment _____
- Decision-Making Process _____
- IFR Accidents _____
- Poor Judgment Chain _____
- Assessing Risk _____
- Pilot-In-Command Responsibility _____
- Hazardous Attitudes _____
- Crew Resource Management _____
- Crew Relationships _____
- Crew Communications _____
- Crew Coordination _____
- Resource Use _____
- Workload Management _____
- Situational Awareness _____
- Controlled Flight Into Terrain _____

IFR Emergencies _____
- Declaring an Emergency _____
- Minimum Fuel _____
- Gyroscopic Instrument Failure _____
- Communication Failure _____
- Emergency Approach Procedures _____
- Malfunction Reports _____

III. COMPLETION STANDARDS:

- Demonstrate ability to recognize and respond appropriately to emergency situations.
- Demonstrates understanding of factors affecting the decision making process.

LESSON 314: (2.0 Hours, Ground Instruction)

I. OBJECTIVE:

- Review and become familiar with the Federal Aviation Regulations related to instrument flight.
- Understand the information from NTSB Part 830.

II. ACADEMIC CONTENT: CHECK LIST

Regulations:

| | |
|---|---|
| 14 CFR Part 1 | _____ |
| - Definitions and Abbreviations, appropriate to Private | _____ |
| 14 CFR Part 43 | _____ |
| 14 CFR Part 61 | |
| - Requirements for certificates and rating | _____ |
| - Duration of Pilot Certificates | _____ |
| - Medical Certificate Requirements, Classes, Duration | _____ |
| - Written Tests | _____ |
| - Practical Test | _____ |
| - Pilot Logbook and flight records, logging of time | _____ |
| - Recency of experience requirements | _____ |
| - Instrument privileges and limitations. | _____ |
| 14 CFR Part 91 | |
| - General Operations and Flight Rules | _____ |
| - IFR Requirements Aircraft | _____ |
| - IFR Requirements Weather | _____ |
| - Maintenance, preventive maintenance, airworthiness | _____ |
| NTSB 830 | _____ |

III. COMPLETION STANDARDS:

- Student demonstrates understanding of the resources and regulations related to instrument flight.

LESSON 315: (2.0 Hours, Course Completion Exam)

I. OBJECTIVE:

- To evaluate the students retention of the material covered throughout this course.

II. ACADEMIC CONTENT: CHECK LIST

| | |
|---|---|
| Principles of Instrument Flight | _____ |
| The Flight Environment | _____ |
| Meteorology | _____ |
| Departure Charts and Procedures | _____ |
| Enroute Charts and Procedures | _____ |
| Arrival Charts and Procedures | _____ |
| Approach Charts and Procedures | _____ |
| Emergency Operations | _____ |

III. COMPLETION STANDARDS:

- Demonstrate understanding of all areas that are covered in the FAA Instrument Pilot Written Exam.