WATTS AIR

Ground Training

Curriculum Segment

CE-500

**Ground Training Curriculum Segment Modules**

***General Operation Subjects***

1. Flight Planning Module
   1. Flight Planning Charts
   2. Fuel Consumption Charts
   3. Operations
   4. Limitations
2. Communications and Navigation Procedures Module
   1. Enroute
   2. Approach and Landing
3. Weight and Balance Module
   1. Operation
   2. Limitation
4. Performance Module
   1. Charts, Tables, Tabulated Data
   2. Performance
   3. Limiting Factors, Runway Length, Ambient Temperature
5. Approved Flight Manual/Pilot Operating Manual Module
   1. Applicability and Description of the AFM
   2. Normal, Abnormal, and Emergency Procedures Sections
   3. Limitations Section
   4. Maneuvers and Procedures Section
   5. General Performance Section
   6. Systems Description
   7. Appendices and Bulletins
6. Crew Resource Management Module
   1. Situational Awareness and the Error Chain
   2. Communication
   3. Synergy and Crew Concept
   4. Workload Assessment and Time Management
   5. Briefing
   6. Reliance on Automation
   7. Decision making and Judgment
   8. Stress
7. High Altitude Considerations-Hypoxia
   1. The High-Altitude Flight Environment
   2. Weather
   3. Physiological Training
   4. High-Altitude Systems and Components
   5. Aerodynamics and Performance
   6. Flight/emergencies while operating above 25,000 feet MSL

***Aircraft Systems***

1. Aircraft General Module
   1. General Elements
      1. Contents of AFM
      2. Training Manuals
   2. Structures Elements
   3. Operating Limitations Elements
   4. Instrument Marking Elements
      1. Engine
      2. Miscellaneous Cockpit Instruments
   5. Aircraft Walkaround
      1. Use visual, video tape or available aircraft
2. Electrical Module
   1. General Elements
      1. System Description
      2. DC Power
      3. AC Power
      4. Annunciators
   2. Operation Elements
   3. Limitations Elements
   4. Emergency/Abnormal Procedure Elements
3. Fuel Module
   1. General Elements
   2. Operation Elements
   3. Limitations Elements
   4. Emergency/Abnormal Procedure Elements
4. Powerplant Module
   1. General Elements
      1. Basic Engine Familiarization
      2. Ignition and Start System
      3. Engine Fuel System
      4. Engine Oil System
      5. Synchronizing
      6. ITT/EFT System
      7. Annuciators
   2. Operation Elelments
   3. Limitation Elements
   4. Emergency/Abnormal Procedure Elements
5. Fire Protection Module
   1. Engine Fire Detection Elements
      1. General
      2. Operation
   2. Engine Fire Extinguishing Elements
      1. General
      2. Operation
      3. Limitations
      4. Emergency/ Abnormal Procedure
   3. Portable Fire Extinguisher Elements
      1. Location
      2. Preflight
6. Hydraulics Module
   1. General Elements Operation Elements
   2. Limitation Elements
   3. Emergency/Abnormal Procedure Elements
7. Thrust Reversers Module (If Applicable)
   1. General Elements
   2. Operation Elements
   3. Emergency/ Abnormal Procedure Elements
8. Landing Gear and Breaks Module
   1. General Elements
      1. Landing Gear
      2. Brakes
      3. Antiskid
      4. Annunciators
      5. Nosewheel Steering
      6. Servicing
   2. Operation Elements
   3. Limitation Elements
   4. Emergency /Abnormal Procedure Elements
9. Flight Controls Module
   1. General Elements
      1. Primary Flight Controls
      2. Trim Systems Controls and Indicators
      3. Secondary Flight Controls and Indicators
      4. Annunciators/ Indicators
      5. Yaw Damping
   2. Operation Elements
   3. Limitation Elements
   4. Emergency /Abnormal Procedure Elements
10. Ice and Rain Protection Module
    1. Anti-Ice System Elements
       1. General
          1. Pitot-Static Anti-ice
          2. Windshield Anti-ice Bleed Air
          3. Windshield Anti-ice Alcohol
          4. Engine Anti-ice
          5. Wing Anti-ice
          6. Annunciators
       2. Operations
       3. Limitations
       4. Emergency/Abnormal Procedures
11. Pneumatics/Air Conditions Module
    1. Pneumatics Elements
       1. General
       2. Operations
       3. Limitations
       4. Emergency/Abnormal Procedures
    2. Air-Conditioning Elements
       1. General
       2. Operations
       3. Limitations
       4. Emergency/Abnormal Procedures
12. Pressurization Module
    1. General Elements
    2. Operation Elements
    3. Limitation Elements
    4. Emergency/Abnormal Procedure Elements
13. Oxygen Module
    1. General Elements
    2. Operation Elements
    3. Limitation Elements
    4. Emergency/Abnormal Procedure Elements
14. Lighting Module
    1. General Elements
       1. Lighting
       2. Exterior Lighting
    2. Operation Elements
    3. Limitation Elements
    4. Emergency/Abnormal Procedure Elements
15. Avionics Module
    1. General Elements
       1. Communications
       2. Standard Flight Instruments
       3. Navigation Equipment
       4. (1) FMS (If appropriate)
       5. Automatic Flight Systems
       6. TCAS
       7. GPWS
    2. Electrical /Mechanical Flight Information Systems (as applicable) Elements
       1. Description
       2. Attitude Horizontal Flight Instruments
       3. Controls
       4. Operation
       5. Limitations
       6. Emergency/Abnormal Procedures
    3. Electronic Flight Information System Elelments
       1. Description
       2. Attitude Horizontal Flight Instruments
       3. Controls
       4. Operation
       5. Limitations
       6. Emergency/Abnormal Procedures
16. Systems Review, Examination and Critique Module
    1. Written Examination with a Passing Grade of 100%

**Systems Integration**

Training Hours:

System Integration Training Module: 2.0 hours

1. **Systems Integration Training**
   * + 1. Checklist
       2. Normal Procedures
       3. CRM

Ground Training

FIXED BASE

AIRCRAFT

Segment

CE-500

**SIMULATOR/AIRCRAFT TRAINING HOURS**

Each flight simulator module is scheduled for one (1) hour as indicated in the following tables. An additional 0.5 hours for prebriefing and briefing is required. Simulator training is generally conducted as a crew; however, a pilot training alone may complete the course with a qualified acting as second-in-command.

1. **Professional Course**

**Flight Simulator PF PNF Total Time**

**Crew/Single Pilot (Hours) (Hours) (Hours)**

**Simulator:**

Module 1 1.0/1.0 1.0/1.0 2.0/1.0

Module 2 1.0/1.0 1.0/1.0 2.0/1.0 Module 3 1.0/1.0 1.0/1.0 2.0/1.0

Module 4 1.0/1.0 1.0/1.0 2.0/1.0

Module 5 1.0/1.0 1.0/1.0 2.0/1.0

Practical Test 1.0/1.0 1.0/1.0 2.0/1.0

**Simulator Training Modules**

1. **Simulator Module No. 1**
   1. Flight Training Events
      1. Surface Operations
         1. Starting
         2. Pre-takeoff Checks
      2. Takeoff
         1. Normal
      3. Area Departure
      4. Enroute
         1. Unusual Attitudes include:
            1. Steep Turns
            2. Approach to Stall – Takeoff configuration
            3. Approach to Stall – Enroute configuration
            4. Approach to Stall – Landing configuration
      5. Approaches
         1. Area arrival
         2. Holding
         3. Precision- ILS
         4. Missed Approach
      6. Landings
         1. Normal
         2. Rejected Landing to a Normal Missed Approach
         3. Landing from a precision instrument approach
      7. Systems procedures – normal
         1. Normal checklists
         2. Performance and Limitations
2. **Simulator Module No. 2**
   1. Flight Training Events
      1. Surface Operations
         1. Starting
         2. Pre-takeoff checks
      2. Takeoff
         1. Crosswind
         2. Instrument
      3. Area departure
      4. Enroute
         1. Autopilot
      5. Approaches
         1. Precision Approach (Autopilot Coupled)
         2. Nonprecision approaches
         3. Missed Approaches
      6. Landings
         1. Normal
         2. Crosswind
         3. Landing from an instrument approach
   2. Systems Procedures (Normal)
      1. Normal Procedures
      2. Performance and Limitations
      3. Autopilot
3. **Simulator Module No. 3**
   1. Flight Training Events
      1. Surface Operations
         1. Starting Malfunctions
      2. Takeoff
         1. Instrument
         2. Rejected/Aborted Takeoff
         3. Powerplant Failure V1
      3. Enroute
         1. Powerplant Failure
         2. Powerplant Restart
         3. Specific flight characteristics – dutch roll recovery
         4. Electrical system failure
      4. Approaches
         1. Precision approaches with a powerplant failure
         2. Nonprecision approaches with a powerplant failure
         3. Missed approaches with a powerplant failure
      5. Landings
         1. Landing with a powerplant failure
         2. Landing from an instrument approach
         3. Landing from a zero or non-standard flap approach
   2. Systems procedures (Normal, Abnormal, Emergency)
      1. Normal Procedures Checklists
      2. Performance and Limitations
      3. Landing Gear Malfunctions
      4. Hydraulic Malfunctions
      5. Powerplant Malfunctions
      6. Electrical Malfunctions
      7. Pressurization Malfunctions
      8. Emergency Descent
      9. Pitch Axis Malfunction
4. **Simulator Module No. 4**
   1. Flight Training Events
      1. Takeoff Maneuvers
         1. Takeoff with Thrust Reverser Malfunctions
         2. Rejected/Aborted Takeoff
         3. Powerplant Failure at or above V1
      2. Approaches
         1. Area Arrival
         2. Precision Approach
         3. Nonprecision Approach
         4. Missed Approach
      3. Landings
         1. Approach and Landing with a powerplant failure
         2. Landing from an instrument approach
   2. Systems Procedures
      1. Normal Procedure
      2. Performance and Limitations
      3. Fuel System Malfunctions
      4. Ice Protection Malfunctions
      5. Windshear Recoveries
      6. Powerplant Malfunctions
      7. Aircraft Icing
      8. Engine Fire
      9. Alternate Gear Extension
5. **Simulator Module No. 5**
   1. Flight Testing Events
      1. Preflight Procedures
      2. Ground Operations
      3. Takeoff and Departure Maneuvers
      4. Inflight Maneuvers
      5. Instrument Procedures
      6. Landings and Approaches to Landings
      7. Normal and Abnormal Procedures
      8. Emergency Procedures
      9. Postflight Procedure

Flight Training

Segment

CE-500

**Aircraft Training Module**

1. **Flight Training Events**
   1. Preparation
      1. Preflight
   2. Takeoff
      1. Taxi
      2. Normal Takeoff
   3. Flight Maneuvers
      1. Steep Turns
      2. Approach to Stalls
      3. Recovery from Unusual Attitudes
   4. Approaches
      1. Normal ILS
      2. Engine Out ILS
      3. Circling Approach
      4. Normal Missed Approach
   5. Landings
      1. Normal Landing
      2. Maneuver to Landing with a Powerplant Failure
      3. Rejected Landing to a Normal Missed Approach
      4. From a Circling Approach