

**Student Name:**

## Training Syllabus—Component Completion

**1 FAMILIARISATION WITH AIRCRAFT**

Check	Date	Student	Instructor

- External features - Major components, without excessive detail
- Cockpit layout - Name each instrument (use checklist)
- Aircraft systems - Introduction
- Logbook - How to complete and maintain

**1E EMERGENCY DRILLS (with respect to ground emergencies)**


- Emergencies carried out as per aircraft Ops Manual
- Engine fire on ground
- Electrical cabin fire on ground

**2 PREPARATION FOR AND ACTION AFTER FLIGHT**


- Electrical system
- Position of aircraft for starting
- Authorisation
- External inspection
- Position of aircraft for starting
- Entering cockpit
- Availability of fire extinguishers
- Seating (comfortable, adequate visibility, able to manipulate controls freely)
- Internal inspection
- Pre and after start checks (Student to do first start-up)
- Power checks

**THE AIRCRAFT SYSTEMS**


- Static system
- Dynamic system
- Ignition system
- Hydraulic system
- Philosophy: Cockpit - flow patterns, memory and action items
- Checklist: Practical use of, availability

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### **ACTION AFTER FLIGHT**

- After landing checks
- Where to park/flight line/refueling
- Shutdown (method)
- Danger of leaving ignition and master on
- Securing the- controls
- Park brake
- Tidying up the cockpit
- Post flight inspection and chocks
- Flight folio and reporting of snags

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### **3 AIR EXPERIENCE (Depending on previous experience)**

- Introduction to the sensation of flight
- New aspect of ground seen from ai
- Introduction to attitude flying concept
- Set the tone for all subsequent training
- Radio - Use of formal terminology and standard phraseology


### **4 EFFECTS OF CONTROLS**

- Basic level flight attitude
- Primary effects (Banked and level attitude)
- Secondary effects
- Aileron and rudder coordination -Further effects
- Trimmers (elevator, rudder tab, NB to focus on external attitude)
- Effect of airspeed on the controls: effectiveness, yaw, pitch
- Slipstream
- Throttle: pitch and yaw
- Effect of flap - coordinated pitch attitude change
- Effect of airspeed on the controls
- Slipstream
- Spiral dive and recovery


### **5 TAXYING**

- Inertia: the need for excess power to get moving
- Power reduction once moving to control speed
- Avoid repetitive opening and closing of throttle
- Correct use of power and brakes
- Speed control: acceleration/deceleration
- High speed taxiing, smooth but positive control and correction
- Directional control
- Where to taxi
- Keeping aircraft moving during turns


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## Training Syllabus—Component Completion

### **TAXYING (Continued)**

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Straightening nose wheel before stopping  
Instrument serviceability - AH, TC, DI Compass and ADF  
High speed taxiing, smooth but positive directional control  
Stopping, use of brakes while maintaining direction


### **6 STRAIGHT AND LEVEL**

Initial height control - Co-ordinated application and attitude change  
Subsequent height control - Anticipate effect of drag and inertia  
Trimming – Remove control pressure only when finally settled  
Slow flight - Anticipate effect of drag, allow for inertia  
Basic attitude – Correct use of trimmer  
Height - Correct attitude for power / speed to maintain height  
Instruments – Use for reference only not for control  
Throttle/Rudder coordination - level, direction/balance with rudder  
Trimming - Pressure off once aircraft is settled  
Straight and Level – Slow Safe Cruise  
Flying at various airspeeds – Power, Attitude and configuration  
Entry - Correct sequence and attitude control during transition  
Maintaining - Correct pitch attitude will maintain speed  
Wings level and balance, will maintain direction


### **7 CLIMBING**

Entry - Correct sequence and attitude control during deceleration  
Speed control - Instruments only for indication of performance  
Measured attitude changes for control  
Performance—Effect of incorrect attitude / speed on ROC  
Leveling off—Specific altitude  
Maintaining—Correct pitch attitude will maintain speed  
Wings level and balance will maintain direction


### **8 DESCENDING**

Entry  
Slope - Variable from level flight to glide  
Speed - Attitude and trim adjustment required with power change  
Range - Combined use of flap and power to control  
Speed control – Combination of power and attitude  
Performance - How correct speed affects ROD / Range  
Leveling off (No specific altitude)  
Maintaining


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### 9 TURNING

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#### **Medium Turns**

- Coordinated aileron and rudder for entry
- Coordinated controls for countering rolling tendency in the turn
- Attitude for height control - Basic medium turn attitude
- Coordinated aileron/rudder to roll out of turn
- Attitude back to normal for straight & level
- Climbing turns—rate one turns
- More opposite aileron required in climbing turn
- Descending turns - less opposite aileron required
- Attitude control: various rates of descent (glide and powered)


### 10A SLOW FLIGHT

- 2 speeds for one power setting
- Flap settings
- Speed/attitude relationship
- Minimum power setting required to maintain altitude
- Awareness
- Sluggishness of controls - gentle input with attention to coordination


### 10B STALLING

- Safety - HASELL checks
- Entry - external reference for pitch, lateral and directional control
- Approaching the stall - minimal use of ailerons, use rudder to keep wings level
- Symptoms of the approach to the stall and the actual stall
- Recovery using external reference - avoid steep nose down attitude
- Recovery with / without power. The effect on height lost.
- Entry to stall with / without flaps
- Stalling in landing configuration
- Effect of g-force on stall speed (steep turns)


### 11 SPIN AVOIDANCE

- Safety. Utility category: Mass and balance calculation in training file
- Entry - Positive application of controls
- Recovery - correct sequence: power off, opposite rudder, stick forward
- Avoid development of the spin - recover during incipient phase
- Very important:** absolutely no use of ailerons during recovery


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### 12 TAKE OFF AND CLIMB

#### TO DOWNWIND POSITION

- Briefing - Informal assessment of actual conditions and subsequent decisions
- Demonstration - runway centerline & reference point, positive control
- Rotate - Elevator control to allow aircraft to rotate and fly itself off
- Lift-off - use horizon to control attitude and direction
- Positive rate of climb, after take-off checks when safely clear of ground
- Position in relation to runway - building awareness
- Maintaining good square circuit - using reference points
- Accuracy - not at expense of technique
- Geometry - Based on runway
- Short field take of

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### 13 CIRCUIT APPROACH AND LANDING

- Demonstration - runway centreline & reference point, positive control
- Immediate action based on own judgement
- Heading control - use of DI in circuit
- Glide Approach
- Go around- A bad approach is a bad landing
- Landing - positive control near ground during flare and hold off
- Balloon recovery
- Directional and Lateral control and correction before touchdown
- Directional control and correction during and after touchdown


#### Side slipping

- Entry - Rudder to align the aircraft with a line feature
- Aileron to control bank
- Maintaining - Controlling airspeed with Attitude control
- Transition from the sideslip to normal descent - coordination


### E EMERGENCIES (with respect to take offs, landings, go-arounds and engine failure)

- EFATO demo - shortly after take-off, field selection, procedures
- EFATO - student competent with reaction time, procedures
- Engine failure in the circuit - procedures, confidence
- Emergencies during hi-speed taxi (loss of direction)
- Go-around - positive and prompt action
- Short-field landing
- Bounce recovery - avoiding nose-down reactions by student.


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### 14 **FIRST SOLO**

All pre-solo requirements complied with (Pre-solo check list)  
Briefing: differences in handling of lighter aircraft - what to expect  
Debrief  
Completion of logbook

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### 15 **ADVANCED TURNING**

#### **Steep Turns**

45 Degrees - attitude control, maintaining adequate back pressure  
Maintaining bank angle, accuracy of height control  
Spiral dive recovery


### 16 **FORCED LANDING WITHOUT POWER (FLWOP)**

Setting up the glide, speed control  
Glide - Entry and trimming for attitude/speed  
Field selection - Large field will improve chances of success  
Field selection - Awareness of wind direction  
Field selection - Field within easy range  
Plan the approach - Choice of altitude check points  
Base position - Familiar situation (normal glide approach)  
Approach judgment- Dangers of attempting to stretch the glide  
Losing excess height - Side slipping, zigzagging, flaps


### 17 **PRECAUTIONARY LANDING**

Briefing - The motivation for attempting precautionary landing  
Choice of field (WOSSS)  
Radio calls  
Setting up slow safe speed  
First pass ohd field at 500', joining on downwind for inspection  
Method of choosing reference points for proper inspection circuit  
Approaching for first and second inspection passes  
Inspection pass checks - first pass and second pass  
Maintaining proper altitude/airspeed and accuracy of procedures  
Preparation for the landing - pax briefing, downwind checks  
Actions on finals - preparation for the touchdown.  
Short field landing execution


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## Training Syllabus—Component Completion

### 18A NAVIGATION

- Preparation - maps, flight plan, nav log, W&B, fuel requirements etc.
- Passing overhead, set heading, time, ETA
- DR navigation - times, map-reading, position fixes
- FREDAS checks
- Maintaining heading, altitude
- Nav log, regular entries, awareness of time/distance errors
- Recognition of ground features and significant points
- Ability to correct navigational discrepancies
- Approaching and joining at unmanned airfields
- Approaching and joining at manned airfields
- Accuracy of ETA predictions, keeping log of ETA vs ATA
- Diversions- calculating time, distance, heading
- Execution of diversion

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### 16 NAVIGATION (*problems at lower levels and in reduced visibility*)

- Brief: CATS and CARs requirements
- Review procedures and check list for low level flying
- Actions prior to descending
- Descending to minimum safe altitude
- Effect of speed and inertia: from straight and level to the climb
- Effect of speed and inertia: during a turn
- Effect of wind: crosswind, turning downwind/into wind
- Turbulence - effect of terrain, heat of the sun, wind
- Bad weather: simulated bad weather landing at a suitable field
