Government of **Western Australia**
School Curriculum and Standards Authority

Standard Operating Procedures (SOP)

***Microsoft* Flight Simulator FSX—*Cessna* 172**

1. Flight simulator parameters

- Cessna 172
- Day
- Nil wind
- Auto rudder ‘on’.

2. Circuit procedures

Take-off (normal)

- Smoothly apply full power
- Maintain directional control (mains either side of centre line)
- Rotate at 55 kt (±5 kt)
- Climb out 75 kt (±5 kt)
- Maintain runway heading (±5°)
- Trim for the attitude.

Crosswind

- Turn onto a heading 90° (±5°) of runway heading
- Turn should commence not below 500 AGL (±50 ft)
- Maintain 75 kt (±5 kt).

Downwind

- Power 2200 RPM
- Heading reciprocal (±10°) of runway designator
- Height 1000 ft (±100 ft) AGL.

Base

- Reduce power—nominally 1500 RPM
- Maintain level attitude
- Flaps 20° (in the white arc)
- Adopt 65 kt (±5 kt)
- Trim for the attitude.

Final

- The aircraft will be positioned on the runway centre line not below 500 ft AGL in the pre-final configuration
- Full flap
- Reduce speed to 60 kt (±5 kt)
- Power as required
- Maintain tracking on runway extended centre line

- Trim for the attitude
- Power off on round-out
- Land after the runway threshold
- Touch down with mains either side of centre line
- Maintain centre line whilst decelerating to a stop.

3. Flight manoeuvres

Cruise

- Adopt straight and level attitude (heading ± 5°, altitude ± 100 ft)
- Allow airspeed to increase to 100 kt
- Reduce power to 2400 RPM
- Trim as required.

Transition—cruise to climb

- Apply full power
- Raise the nose to anticipated climb attitude
- Climb at 75 kt (± 5 kt)
- Maintain heading (± 5°)
- Trim for the attitude.

Climbing turn

- Apply full power
- Roll to 20° angle of bank
- Maintain 75 kt
- Trim for the attitude.

Cruise descent

- Reduce power to 2000 RPM
- Lower the nose
- Recommended rate of descent not less than 500 ft/min
- Maintain heading (± 5°)
- Trim for the attitude.

Glide descent

- Power off
- Maintain altitude
- Reduce speed to 70 kt.
- Lower the nose to maintain an airspeed of 70 kt (± 5 kt)
- Maintain required heading (± 5 kt).

Medium turns

- Power 2400 RPM
- Roll to 30° (± 5°)
- Maintain 30° (± 5°)
- Maintain altitude (± 100 ft)
- Roll out of turn 15° before nominated/reference heading.

- New heading (±5° of nominated heading).

Steep turns (45°/60°)

- Power as required
- Roll to 45°/60° (±5°)
- Maintain 45°/60° (±10°)
- Maintain altitude (±200 ft)
- Roll out of turn 20°/30° before nominated/reference heading
- New heading (±5° of nominated heading).

4. **Additional flight manoeuvres**

Stall—Entry

- Select and maintain reference altitude
- Power off
- Maintain altitude (increase angle of attack) with full up elevator until stalled
- Maintain heading (±10°).

Stall—Recovery

Note: Only when the aircraft is stalled will you no longer be able to maintain your height. The airspeed will be approximately 44 kt.

When you are no longer able to maintain height:

- Ease forward on the control (reduce the critical angle)—nose attitude should approximate that of the horizon
- Apply full power
- When airspeed has increased to 60 kt, regain lost height
- Maximum height loss 200 ft.

5. **Navigation**

- Interpret whether the aircraft is to the left, right or on a given VOR radial or LLZ
- Interpret whether the aircraft is above, below or on a glide path, PAPI or T-VASIS
- Using an ADF, determine the direction to turn to track to a station
- Using an ADF, home/track to an NDB/Locator
- Using an ADF, interpret when the aircraft is passing over the top of an NDB/Locator
- Using the DME indicator, determine the distance to a DME station.