EO M336.03 – EXPLAIN THE EFFECTS OF AIR PRESSURE ON WEATHER

1. **Performance.** Explain the Effects of Air Pressure on Weather.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Classroom or training area large enough to accommodate the entire group.

3. **Standard.** The cadet shall explain the effects of air pressure on weather, to include:

   a. the formation of air masses, and

   b. the creation of wind.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain the Polar Front theory, to include: a. the definition of atmospheric pressure, b. pressure systems, to include: 1. isobars 2. low pressure areas, and 3. high pressure areas; c. an air mass over the polar regions, d. an air mass over the equatorial regions, and e. movement at the polar front.	Interactive Lecture	10 min	C3-116 (p. 127, p. 141)
TP2	Explain that the properties (eg, pressure) of an air mass are taken from the area over which it forms, to include: a. continental air mass, b. maritime air mass, c. arctic air mass, d. polar air mass, and e. tropical air mass.	Interactive Lecture	5 min	C3-116 (p. 139)
TP3	Explain the creation of wind, to include: a. the definition of wind, b. pressure gradient, c. land and sea breezes, d. diurnal variation, e. Coriolis force, and	Interactive Lecture	5 min	C3-116 (pp. 127–129)

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TP	Description	Method	Time	Ref
	f. veering and backing.			
TP4	Explain the relationship between pressure systems, and wind strength and direction, to include: a. low pressure areas, and b. high pressure areas.	Interactive Lecture	5 min	C3-116 (p. 128)

5. **Time**

a.	Introduction/Conclusion:	5 min
b.	Interactive Lecture:	25 min
c.	Total:	30 min

6. **Substantiation.** An interactive lecture was chosen for this lesson to introduce the cadets to the effects of air pressure.

7. **References.** C3-116 (ISBN 0-9680390-5-7) MacDonald, A. F., & Peppler, I. L. (2000). *From the Ground Up: Millennium Edition*. Ottawa, ON: Aviation Publishers Co. Limited.

8. **Training Aids.** Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids.** Handouts of the Polar Front theory.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B , Appendix 5, (Aviation Subjects – Combined Assessment PC).

11. **Remarks.** N/A.

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