

SYLLABUS

Embry-Riddle Aeronautical University
Daytona Beach Campus

WX 201 – Survey of Meteorology

Credit Hours: 3

Term: Fall 2009

Section: 02 and 03

Meeting Time/Location: Section 2: M/W/F 9:15-10:15 a.m. Room: CoA 139
Section 3: M/W/F 10:30-11:30 a.m. Room: CoA 139

Instructor: Dr. Chris Herbster

Office Hours: M/W/F: 11:30 – 12:00 p.m. and 3:30 – 4:30 p.m.
Tu/Th: 11:30 – 12:30 p.m.

Office Location/Phone: CoA 338 / 226-6444

Email: herbstec@erau.edu

Course Text: *Meteorology Today* by C. Donald Ahrens, 9th Ed.

Course Description: This is a survey course in meteorology that includes applications to flight. Included is a systematic development of the following topics: the composition and general structure of the atmosphere, weather observations and data, energy and energy transfer in the atmosphere, seasonal and daily controls on temperature, atmospheric moisture, fog, clouds, atmospheric stability, precipitation, icing, atmospheric pressure, winds, local and regional circulations, the general circulation pattern, jet streams, turbulence, air masses, fronts, mid-latitude cyclones, thunderstorms, tropical cyclones, and climate change.

Goals: This course is designed to provide the student with a general meteorological background with some emphasis on the impact of weather on flight operations.

Learning Outcomes:

During the course, the student will, to the satisfaction of the instructor:

1. Identify the gases of the atmosphere, their relative concentrations, and the significant characteristics of those gases.
2. Specify the average attributes of temperature and pressure in the vertical dimension.
3. Decode the standard components of a METAR.
4. Distinguish between various forms of energy and energy transfer processes.
5. Demonstrate an understanding of the occurrence of the seasons.
6. Differentiate between the mechanisms that bring about temperature patterns.
7. Determine various representations of humidity in the atmosphere (e.g., vapor pressure, mixing ratio, dew point, relative humidity, etc.).
8. Discriminate between the different types of fog and how they form.
9. Recognize various cloud types and formation processes.
10. Given an environmental lapse rate, determine the stability of the atmosphere.
11. Distinguish between different forms of precipitation and how they develop.

12. Identify the icing types and key factors in their formation.
13. Demonstrate an understanding of how winds are generated in the atmosphere.
14. Recognize wind circulation patterns on a variety of scales.
15. Make a distinction between the two types of jet streams, their characteristics, and explanations for their formation.
16. Be familiar with mechanisms that lead to turbulence.
17. Differentiate between the various air mass types and how they are formed.
18. Characterize different types of surface fronts.
19. Demonstrate an understanding of the characteristics of mid-latitude cyclones.
20. Identify the attributes and behaviors of thunderstorms.
21. Identify the attributes and behaviors of tropical cyclones.
22. Select the key scientific issues associated with climate change.

Grading:

Three Multiple Choice Exams (20% each, with lowest equal to 15%, for total of 55%)

Homework (20% total)

Comprehensive Multiple Choice Final (25 points)

Section 2: Tuesday, December 8, 0800--1000

Section 3: Monday, December 7, 1915--2115

Grading information:

1. Each regular term exam will be multiple-choice and will cover material since the previous exam. The lowest exam will contribute 5% less toward the final grade. The final exam is a comprehensive multiple-choice exam.
2. Students are expected to read the assigned chapter prior to beginning of class for the chapter being covered in class.
3. There will be approximately 16 homework assignments consisting of 10-15 multiple choice questions each. With the exception of the weather observations assignment, homework assignments are typically designed to prepare you for the upcoming lecture. Students are expected to read the chapter and answer the assigned questions. At least two lowest homework scores will be dropped from the final grade calculations.
Homework will, in general, be due by the beginning of the class covering the assigned chapter. Homework due dates will be posted on Blackboard as well as announced in class.

Standards: Letter grades will be computed from the weighted scores described above with letter grades assigned as follows:

A	90 - 100%	D	60 - 69%
B	80 - 89%	F	Below 60%
C	70 - 79%		

Class Policies:

1. Attendance will be recorded daily and count towards your final grade as follows. Official excused absences will not count against your attendance record for grading purposes, but will count against your Dispatcher Program attendance requirements.

95 – 100%	(0-2 no shows)	+2% to final grade
90 – 95%	(2-4 no shows)	+1% to final grade
85 – 90%	(5-6 no shows)	0% to final grade
80 – 85%	(7-8 no shows)	-0.5% to final grade
<75%	(>8 no shows)	-1% to final grade

Note: All students are automatically enrolled in the AS Flight Dispatcher Program. The FAA requires 90% attendance for this course for the semester. If you have an extended illness, or other excused absences, suitable makeup exercises will be assigned if requested.

2. Please be on time and remain attentive. Tardiness is discourteous to faculty and fellow students alike. Loosing interest in the lecture and doing non-class related activities can be very disruptive to those in a broad radius around you.
3. Homework is due on the day assigned before class begins. ***Late homework will not be accepted except for excused absences.***
4. Academic honesty is the expected mode of behavior. Your grade is for your work. Academic dishonesty could result in dismissal from the University. Falsifying attendance records constitutes academic dishonesty and will be treated appropriately.
5. Make-up exams will not be given except for excused absences. Obtain verified excused absences from Health Services (7917) or Student Services Office (6326). Contact me before you miss an exam if it is possible, as soon after if not.
6. The Weather Lab (CoA Rm. 356, 226-6444) has computers and student tutors who will assist anyone needing help.
7. If you have any difficulties or special needs that hinder your learning in the class, see me about providing accommodations needed to overcome your difficulties.
8. **I am here to help you learn. Please feel free to see me at any time. If published office hours are not convenient, another time can be arranged.**