

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

XX Transfer Course XX A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: AERO 120 Aviation Weather

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

Basic principles relating to weather with particular emphasis placed upon the relationship of weather to aviation. Practical instruction is given in the use and interpretation of weather reports, forecasts, and charts.

SPECIFIC COURSE OBJECTIVES:

Upon completion of this course, the successful student will be able to:

1. Explain the hazards of fronts, fog, icing, thunderstorms, and air masses.
2. Apply principles learned to synthesize solutions to avoid forecast areas of hazardous weather conditions.
3. Evaluate and analyze weather charts and written reports/forecasts provided by the weather service and flight service stations.
4. Identify the best route to fly given the present and forecast weather conditions.
5. Apply principles learned to avoid areas of suspected or forecast wind shear.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Earth's Atmosphere
 - A. Temperature
 - B. Pressure
- II. Altimetry
 - A. Density Altitude
 - B. Altimeter Errors
- III. Wind
 - A. Wind Shear
 - B. Headwind and Crosswind Components
- IV. Moisture
 - A. Clouds
 1. Types
 2. Dangers
 - B. Precipitation

- V. Stability and Characteristics
 - A. Stable Air
 - B. Unstable Air
- VI. Air Masses
- VII. Frontal Characteristics
 - A. Warm
 - B. Cold
 - C. Occluded
 - D. Stationary
- VIII. Turbulence
 - A. Prediction
 - B. Dangers
- IX. Icing Types and Dangers
 - A. Rime
 - B. Clear
 - C. Mixed
 - D. Frost
- X. Thunderstorms
 - A. Characteristics
 - B. Avoidance
- XI. Common IFR Producers
 - A. Fog (types of)
 - B. Low Clouds
- XII. High Altitude Weather
- XIII. Weather Reports
 - A. Surface
 - B. Pilot Reports
 - C. Surface Analysis
 - D. Weather Depiction
 - E. Radar Summary
 - F. Winds/Temperature Aloft
 - G. Constant Pressure
- XIV. Weather Forecasts
 - A. Terminal
 - B. Area
 - C. Route
 - D. Special
 - 1. Convective Outlook
 - 2. Severe Weather Watch Bulletin
 - 3. Hurricane Watch
 - E. Significant Weather Progs.
 - F. Winds/Temperature Aloft Progs.
 - G. Constant Pressure Progs.

REQUIRED READING:

Lester, P. Aviation Weather. 3rd edition. Englewood, CO: Jeppesen Sanderson, 2000.

Houser, J. Guide to Aviation Weather Services. San Marcos, CA: Palomar College Bookstore, 2001.

SUGGESTED READING:

Federal Aviation Administration, Aviation Weather, AC00-6A, 1975.
Washington, D.C.: U.S.G.P.O., 1986.

REQUIRED WRITING:

A two page paper on an assigned topic dealing with aviation weather.

OUTSIDE ASSIGNMENTS:

Reading assignments in text, study of lecture notes, writing of assigned paper.

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Lecture, slides, films, discussion, classroom practice.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Three tests, assigned paper and final. All 5 items will be averaged.

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: _____

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

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SIGNATURES ON FILE