

Course Code: AVI 131

Course Title: Aviation Weather

Department: Aviation

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 49.0102

Repeatability: 0

Credit Hours

Catalog Notation: 4-0-4

Credit Hour Distribution:

Lecture: 4

Lab: 0

Clinical: 0

Total: 4

General Course Information

Catalog Description

Gain knowledge of weather theory for aviation operations. Includes interpretation of aviation reports, charts, forecasts, other weather information, and human factor issues related to safe weather decision making in scenarios and applications.

General Course Objectives

Student will review basic weather theory as it applies to the aerospace environment, increase their knowledge of aviation weather products, and learn how to use these products to make informed and safe decisions for flight scenarios.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in AVI 101 and ESC 101

Methods of Evaluation

Evaluation is accomplished via 2-3 objective hourly exams, 8-12 homework assignments, a project report detailing a weather related aircraft incident or accident, and a final exam.

Instructional Materials and Additional Supplies

Aviation Weather (AC 00-6B), https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_00-6B.pdf

Aviation Weather Services (AC 00-45H),

https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_00-45H_CHG_2.pdf

Aeronautical Information Manual,

https://www.faa.gov/air_traffic/publications/atpubs/aim_html/index.html

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Atmospheric Composition and Circulation	1. Identify and explain characteristics of levels of the atmosphere. 2. Interpret impact of circulation on weather development.	6	0	0
Winds and Forces	1. Give examples of various winds and describe their impact on flying condition. 2. Describe how various forces act to influence wind conditions.	6	0	0
Moisture, Cloud Formation, and Precipitation	1. Describe the process of moisture and cloud formation. 2. Classify various cloud formations and assess their impact on flight conditions. 3. Identify various precipitation types and understand precipitation formation. 4. Assess precipitation impact on flight conditions.	6	0	0
Stability, Convection, and Frontal Systems	1. Compare and contrast different types of atmospheric stability and their impact on convection. 2. Discriminate types of frontal systems by visual and physical characteristics. 3. Correlate impact of frontal systems on flying conditions.	6	0	0
Hazardous Weather (Thunderstorms, Icing, Turbulence, Windshear, Microbursts, and Lightning)	1. Explain the nature of hazardous weather phenomenon, and predict impact on flight conditions.	8	0	0
Aviation Surface Observations and Charts	1. Utilize various aviation weather products to understand current weather situation.	6	0	0
Forecasts and Prognostic Charts	1. Utilize various aviation weather products to examine and predict how future weather situation will impact flight safety.	6	0	0
Upper Air, Radar, and Satellite Imagery	1. Utilize various aviation weather imagery to determine active flight conditions.	6	0	0
Human Factors in Wx Decision Making	1. Examine the nature of human error in weather decision making.	10	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
60	0	0