

Common Course Outline

AVMT 201

Aviation Meteorology

4 Semester Hours

The Community College of Baltimore County

Description

Aviation Meteorology provides an in-depth discussion of atmospheric science and its relationship to flight operations. Students learn thermal and pressure patterns, atmospheric circulation, jet stream movement, air masses, fronts, stability, cloud formation, fog, icing, turbulence, thunderstorm development, and seasonal weather trends. Meteorological hazards to flight operations are presented and integrated with detailed weather analysis and modern forecasting techniques. 4 credits; 3 lecture hours per week; 1 laboratory hour per week. Prerequisite: AVMT 101, Aviation History & Development and AVMT 141, Private Pilot Ground School.

Overall Course Objectives

1. Identify the theoretical concepts of atmospheric science and weather development;
2. Recognize the associated effects of weather to flight operations;
3. Interpret various weather reporting formats pertinent to aviation;
4. Given current weather data, accurately forecast weather phenomena for a specific region;
5. Describe the uses of modern weather forecasting equipment;
6. Identify the typical weather patterns and hazards associated with each season;
7. Describe the effects of global pressure patterns;
8. Describe the principles of cloud development;
9. Describe the relationship of air stability to weather patterns;
10. Describe the characteristics and effects of airmass and frontal movements;
11. Recognize the evolution of thunderstorm development;
12. Identify hazards to flight operations associated with various weather phenomena; and
13. Identify aircraft performance criteria associated with various weather phenomena.

Major Topics

- I. Atmospheric Composition and Characteristics
- II. Temperature and Pressure Effects
- III. Wind, Jet Stream, Global & Local Circulation Patterns
- IV. Air Stability, Moisture, Cloud Formation, Fog, and Precipitation
- V. Air Masses & Fronts
- VI. Turbulence, Icing, & Thunderstorms
- VII. High Altitude Weather
- VIII. Tropical Weather and Arctic Weather
- VIII. In-flight Weather Hazards to Aircraft
- X. Atmospheric Effects on Aircraft Performance
- XI. Seasonal Weather Patterns
- XII. Interpretation of Aviation Weather Reports and Forecasts
- XIII. Weather Forecasting and Weather Threats
- XIV. Flight Operations Weather Exercises

Course Requirements

Grading/exams: A minimum of two (2) exams will be administered in this course. Grading procedures will be determined by the individual faculty member.

Writing: A minimum of one (1) writing assignment will be required. The individual faculty member will determine specific writing assignments.

Other Course Information

This course is an elective for the Aviation Management degree program.

This course is taught in a computerized environment.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

The Community College of Baltimore County (“CCBC”) is committed to providing a high-quality learning experience that results in growth in knowledge, attitudes, and skills necessary to function successfully as a transfer student, in a career, and as a citizen. To accomplish this goal, we maintain high academic standards and expect students to accept responsibility for assignments, participate actively in class activities and prepare accordingly for all forms of assessment.

CCBC takes seriously our responsibility to maintain high-quality programs and will periodically ask the instructors to participate in various assessment activities to determine whether our students are attaining the knowledge, attitudes, and skills appropriate to various courses and programs. The assessment activities may take many different forms such as surveys, standardized or faculty-developed tests, discussion groups, or portfolio evaluations. We ask that the instructor take these activities seriously so that we can obtain valid data to use for the continuous improvements of CCBC’s courses and programs of study.