

**BERGEN COMMUNITY COLLEGE  
DIVISION OF MATHEMATICS, SCIENCE AND TECHNOLOGY  
DEPARTMENT OF INDUSTRIAL & DESIGN TECHNOLOGY**

**COURSE SYLLABUS  
AVT115 - Aviation Meteorology**

**INSTRUCTOR:**

**OFFICE: TEC 105**

**EMAIL:**

**PHONE:**

***Course Description***

**Aviation Meteorology** is a study of current aviation weather concepts and modeling as applied to the flight. Topics considered include the evolution of weather theory, the impact of computer modeling systems and advances in weather data collection. In preparation for student flight application, weather hazards, pre-flight weather briefings, and in route weather reports are also studied. Applying the above concepts will facilitate appropriate decision making in flight based operations.

3 lectures, 3 credits

Co-requisite: PHY-114 Meteorology

**Student Learning Objectives:** As a result of meeting the requirements in this course, students will be able to:

1. Demonstrate the fundamental concepts of weather systems and weather generation and how the data is disseminated in current real-world applications.
2. Employ core weather data to analyze various predictions in weather modeling systems.
3. Demonstrate the fundamental principles of weather prediction and how they are operationally applied.
4. Demonstrate knowledge of the computational tools to solve operational weather problems.
5. Perform fundamental analysis of severe aviation weather using current online tools.
6. Find domestic and foreign sources of weather information
7. Demonstrate appropriate decision making skills

**Means of Assessment:**

Each of the above listed student learning objectives will be assessed by:

1. Written assignments and/or quizzes
2. Written examinations
3. Classroom exercises or other assessments as determined.

**Course Content**

Aviation Meteorology will provide a broad overview of current and future aviation weather reporting and the impact of weather on aviation operations.

The course will be delivered in a Technology building classroom. Power Point presentations with lecture, internet source material and group exercises with computational software tools will be utilized.

**Special Features of the Course**

Upon completion of this course the student will have the ability to understand and apply practical aspects of aviation weather. The course will be taught through a combination of power point presentations and internet source materials and research texts and developed software tools.

**Course Texts and/or Other Study Materials**

*The Pilot's Handbook of Aeronautical Knowledge*  
Published by Department of Transportation/FAA  
FAA-H-8083-25A  
2008

Online at:

[http://www.faa.gov/library/manuals/aviation/pilot\\_handbook/media/PHAK%20-%20Chapter%2012.pdf](http://www.faa.gov/library/manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2012.pdf) and available in the library

Online resources:

<http://aviationweather.gov/adds/>

<http://www.education.noaa.gov/>

<http://aviationweather.gov/iffdp/>

Resources at: <http://faa.gov>

[AC 00-6, Aviation Weather For Pilots and Flight Operations Personnel;](#)

[AC 00-24, Thunderstorms;](#)

[AC 00-45, Aviation Weather Services;](#)

### **Research, Writing, and/or Examination Requirement(s)**

Course research will be at the discretion of the student with instructor oversight./writing/presentation/examination requirements.

Student group work on classroom exercises is vital to course success. Participation is included in final course grading.

### **Grading Policy**

Students should refer to the instructor's grading policy which will be distributed on the first meeting of class. Attendance and tardiness policies Will be determined by the instructor for each section of the course. These will be established in writing on the individual course outlines.

Late work and make up examinations will be handled on a case by case basis.

### **BCC Attendance Policy**

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes. Students are required to contact the instructor regarding missed classes.

A daily list of class cancellations is posted on the college's web page: [www.bergen.edu](http://www.bergen.edu). If students find the class has been cancelled without being posted, they should report it to the Divisional Dean's Office.

### **Other College, Divisional, and/or Departmental Policy Statements**

Code of Student Conduct.  
Plagiarism and/or academic dishonesty.  
American Disabilities Act  
Sexual Harassment policy.  
Policy on acceptable use of BCC technology.  
Policy on the purpose and value of faculty office hours.

May be found in the Bergen Community College catalogue or online at:  
[http://www.bergen.edu/Documents/Catalog/Catalog-Policies\\_11-12.pdf](http://www.bergen.edu/Documents/Catalog/Catalog-Policies_11-12.pdf)

## Student and Faculty Support Services

Learning Assistance Center	Room: L-125	447-7908
Sidney Silverman Library	Room: L-226	447-7436
Office of Specialized Services	Room: L-115	612-5270
BCC Web Advisor is available at: <a href="https://go.bergen.edu/WebAdvisor/">https://go.bergen.edu/WebAdvisor/</a>		

## Statement on Accommodations for Disabilities

Bergen Community College aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Specialized Services at 201-612-5269 or via email at [ossinfo@bergen.edu](mailto:ossinfo@bergen.edu) for assistance.

## Include a Course Outline and Calendar

Week	Topic/Activity	Assignments/Events	Student Learning Objectives
1	Introduction to the Course, IPAD weather, WX radar, Doppler, satellite weather	PHAK Ch. 11	1
2	Historical Perspective of Aviation Weather, Almanacs, resources, WEB	PHAK Ch. 11	1
3	Aviation Weather Services, National Weather Service, NOAA	PHAK Ch. 12 AC 0045	1, 3
4	Reading Weather Reports, METARS, Terminal Area Forecasts	PHAK Ch. 12	2, 4, 7
5	Exam 1		
6	Return and Review of Exam 1 Computer Modeling of weather, weather bias, GFS, European	AC 006 NOAA ADDS	2, 4
7	Why forecasts are wrong, algorithms	NOAA	1, 3, 5
8	Applying Weather in the aviation environment, Alternate airports, VFR, IFR, CAT 3 minimums	AC0045	2, 7
9	Group weather exercise #1 Flight planning with weather considerations	ADDS, NOAA	2, 7
10	Exam 2		
11	Return and Review of Exam 2 Airline Weather, Met aircraft reports	ADDS	3
12	Severe Weather/High Altitude Considerations, ISA, Saffir Simpson, Fujita Scale, Jet Stream, Tropopause	NOAA, ADDS, AC00-24	3, 5, 7
13	International Aviation Weather, Millibars, Hectopascal, Celsius, Fahrenheit, transition level, pressure altitude Group Exercise #2	ADDS	4, 6
14	Course review <u>Final Deadline for Late Exercises and Extra Credit Work</u>		
15	Final Exam		

**Note to Students:** This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.