

Aviation 123 (AVIA 123)
Aviation Weather
Fall 2009
Mon-Fri 5 credits

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Course Description:

AVIA 123 covers the necessary knowledge of aviation weather to prepare the student for a professional career in aviation. Teaching methods include lecture, discussion, in-class and homework assignments with a continuous focus on practicing how to interpret International Civil Aviation Organization (ICAO) METAR information.

Materials for AVIA 123:

Text: Jeppesen Weather Textbook
Aviation Weather Services AC 00-45E (Available online for free)

Other

- FAA publications available via the internet:
 - www.aviationweather.gov (for weather information)
 - www.faa.gov/library/manuals/aircraft/ (for FAA flying manuals)
 - www.faa.gov/atpubs/ (for other FAA publications)

Learning Objectives:

The student will obtain the necessary aeronautical weather knowledge to fully prepare the student for other aviation classes that will follow in the Aviation Department degree portfolio. A solid foundation of weather pertaining to aviation is essential for aviation degrees GRCC offers, and is a pre-requisite for other aviation classes.

Instructional Methods and Conduct of the Class

This is primarily a lecture class complimented with frequent observations of weather, in-class exercises, seminar discussions, and quizzes as needed. Periodically, students will take closed-book tests to measure student learning and as a review of material students have covered.

Homework:

Homework includes reading, problem solving and project work. Homework depends on student progress, assignments may change as students show progress. Normally, reading the material before class, then having a “post-class study session” to review the information we cover in class, and finally, conducting regular “self-testing” using the class study guides will suffice. Occasionally, some students may need more study to prepare for the tests. In-class quizzes and exercises serve to show students and the instructor where to focus learning efforts and to adjust teaching to ensure student comprehension.

Student Code of Conduct:

Refer to GRCC catalog (2009-2010) pages 215-224

Course Outline:

We will cover the material for the class in this order and train on METAR continuously

| | | |
|------------|--------------------------------------|---------------|
| Chapter 1 | The Atmosphere | |
| Chapter 2 | Atmospheric Energy and Temperature | |
| Chapter 3 | Pressure, Altitude and Density | <u>Test 1</u> |
| Chapter 4 | Wind | |
| Chapter 5 | Vertical Motion and Stability | <u>Test 2</u> |
| Chapter 6 | Atmospheric Moisture | <u>Test 3</u> |
| Chapter 7 | Scales of Atmospheric Circulations | |
| Chapter 8 | Air masses, Fronts and Cyclones | |
| Chapter 9 | Thunderstorms | <u>Test 4</u> |
| Chapter 10 | Local Winds | |
| Chapter 11 | Wind Shear | |
| Chapter 12 | Turbulence | <u>Test 5</u> |
| Chapter 13 | Icing | |
| Chapter 14 | Instrument Meteorological Conditions | |
| Chapter 15 | Additional Weather Hazards | <u>Test 6</u> |
| Chapter 16 | Aviation Weather Resources | |
| Chapter 17 | Weather Evaluation for Flight | <u>Test 7</u> |

Evaluation Standards, Grading & Academic Honesty:

Evaluation for grade will be via Tests. Evaluation for recommendation for work will be the total effort the student makes in class along with the evaluation tools. The minimum overall percentage for passing is 62%. Cheating in any form will result in a zero score for the test and the student can not retake the test.

Testing, Test Make-up, Retakes & Grading

Students will receive ample warning of upcoming tests. Tests will be in-class closed book. Students must arrange for Make-ups and Retakes with the instructor and use email to verify the coordination arrangements – students will need to provide a reason for missing a test and for retaking a test.

- 1. No re-takes or make-ups of any test will be allowed more than 10 class days after the initial test date.**
- 2. The final score for any test given will be the average of the initial test and the re-take.**
- 3. Only 1 re-take of any given test will be allowed.**
- 4. No re-takes will be permitted after the official “study day” listed in the college calendar for the quarter (normally the week before finals).**
- 5. No re-takes will be allowed for the final exam.**

**Final grade is based on the total number of points earned.
Available points are as follows:**

7 exams worth 100 points each.....= 700
Final exam worth 300 points.....= 300
TOTAL.....= 1000

Attendance/Absence/Tardiness Policy:

Expectation – Each student should to do his or her best to attend every class and to be on time for every class. Sometimes, significant personal issues may impact attendance and some class absences are unavoidable. I understand that work, special events and family situations may cause students to miss class – do your best to not miss class. Please tell me if you suspect that you will not be in class. I will do likewise in the event I’m not available to teach a class. Likewise, please tell me why you missed a class. I care about you and want to know how you are doing. Your success is very important to me

Recognize and acknowledge - Missing classes usually bodes ill for the student who does not attend the class. Habitual tardiness and frequent non-attendance will usually result in a poor learning process, which will usually result in a low or failing grade, but more importantly, missing classes will interfere with you achieving your goals. After all is said and done, the important thing is your success. Let’s work together to make your learning experience successful. You strive to do your part – be on time and ready to learn, and I will strive do my part – be on time and ready to teach.

GRCC decimal grading scale

| % | GRCC | % | GRCC | % | GRCC | % | GRCC |
|-----|------|----|------|----|------|----|------|
| 100 | 4.0 | 90 | 3.5 | 80 | 2.5 | 70 | 1.5 |
| 99 | 4.0 | 89 | 3.4 | 79 | 2.4 | 69 | 1.4 |
| 98 | 3.9 | 88 | 3.3 | 78 | 2.3 | 68 | 1.3 |
| 97 | 3.9 | 87 | 3.2 | 77 | 2.2 | 67 | 1.2 |
| 96 | 3.8 | 86 | 3.1 | 76 | 2.1 | 66 | 1.1 |
| 95 | 3.8 | 85 | 3.0 | 75 | 2.0 | 65 | 1.0 |
| 94 | 3.7 | 84 | 2.9 | 74 | 1.9 | 64 | 0.9 |
| 93 | 3.7 | 83 | 2.8 | 73 | 1.8 | 63 | 0.8 |
| 92 | 3.6 | 82 | 2.7 | 72 | 1.7 | 62 | 0.7 |
| 91 | 3.6 | 81 | 2.6 | 71 | 1.6 | | |

GRCC Campus-wide Outcomes:

Green River Community College (GRCC) identified specific fundamental knowledge, skills, behaviors, attitudes, and values that GRCC students must possess to be successful after leaving the Green River Community College environment:

1. Student’s sense of individual responsibility to the community
 - Demonstrate knowledge of and willingness to accept stated/agreed expectations, policies, behavior, and procedures.
 - Demonstrate accountability (be punctual, prepared, ready to learn), integrity (do your own work, do your share of shared work), initiative (seek help when you need help), and tolerance (be awareness of your own biases). Actively and appropriately interact with others while respecting everyone’s opinion.

- Measured by occurrences of student readiness for class, participation in class, timely assignment submissions, and effective group membership.
2. Quantitative and symbolic reasoning
 - Student can evaluate and interpret information and data, can recognize which processes or methods are appropriate for solving a given problem, can estimate a solution, and correctly implements those processes.
 - Student can translate data into various formats such as graphs, tables, formulas, and sentences.
 - Measured by student work in class, on projects, homework, and tests.
 3. Critical Thinking:
 - Student provides reasons for the conclusions he or she reaches and assesses the relevance and adequacy of those reasons.
 - Student connects past learning with current topics.
 - Measured by student work in class, on projects, homework, and tests.
 4. Written & Oral Communications skills suitable for the modern business environment
 - Student becomes involved with the material and can express a clear sense of purpose, unity, and focus in his or her writing or speaking.
 - Student can organize of his or her thoughts in written and oral communications clearly and effectively using well-organized, logical writing and using correct grammar and spelling.
 - Measured by student work in projects, test answers, and class and group participation

Special Needs:

If, because of a disability, the student:

- Needs special accommodations (adapt a course activity, have additional assistance, etc.),
- Has emergency medical information the instructor should know about, or
- Has a need for special assistance in the event of a building evacuation,

Please contact the Instructor and be sure the instructor fully understands the special need. Students may use alternate modes to communicate Special Needs information (email, phone). In any case, and using any format, students should inform the Instructor as soon as possible after the start of school.

Students should also contact Disability Support Services (DSS) in LSC 277 – Phone DSS at: 253-833-9111, ext. 2631 or TDD at 253-288-3359.