**FLGHT 113 Advanced Meteorology** (54684) Spring 2023





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**Instructor:** Jerry B. Forbis e-mail: jerry.forbis@reedleycollege.edu

Office Phone: none Office Location: Reedley College, Aero building, room 6

Cell Phone: (559) 559-696-2137 Office Hours: by appointment

**CLASS LOCATION:** Aero building, room CCI 201

**DAILY SCHEDULE:** 1:15PM -2:40PM MTWTh Jan 09 - March 23

 Mondays only Mar 27 - May 19

**HOLIDAYS (NO CLASS):** Jan 16 DMLKJ Day

 Feb 17 Lincoln’s Birthday

 Feb 20 Washington Birthday

 April 3-7 Spring Break

**IMPORTANT DATES:** Jan 20 last day for full refund of enrollment fees (tuition)

Jan 27 last day to add a class

 Jan 29 last day to drop and not receive a “W” grade

 Mar 10 last day to drop but will receive a “W” grade

 May 19 last day of finals week/last day of the semester

**REQUIRED TEXTBOOKS/EQUIPMENT:**

1. Uniform shirt(s)
2. Pencils, pens, paper, 8½ by 11 binder, simple calculator (add, subtract, multiply, divide)
3. Pilots Handbook of Aeronautical Knowledge FAA -H-8083-25B
4. **AC 00-6B Aviation Weather**
5. **AC 00-45H Weather Services (with change 1)**
6. **iPad with $120 Foreflight installed**

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| **COURSE DESCRIPTION:** This lecture and lab course is designed to provide an in depth look at weather and how weather relates to aviation. Some topics of discussion will be weather basics, circulation systems, weather hazards, and applying weather knowledge. This course will prepare the student for more advanced levels of aviation training. PREREQUISITE: Flight 101. ADVISORIES: Mathematics 201. (A) |
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**Learning Outcomes and Objectives**

**Course Objectives**

1. Describe the effects of pressure on aviation.

2. Evaluate various weather conditions and make a safe Go/No Go decision.

3. Differentiate the various levels of icing.

4. Analyze real-world flying scenarios using industry-standard decision-making techniques to generate safe action plans.

**CSLOs**

FLGHT-113 SLO1: Analyze airmasses and their impact on weather.

FLGHT-113 SLO2: Classify weather hazards and their impact on aviation.

FLGHT-113 SLO3: Describe the effects of vertical motion and stability of the atmosphere.

**Course Outline**

A. Aviation Weather Basics

 1. The Atmosphere

 2. Atmospheric Energy and Temperature

 3. Pressure, Altitude, and density

 4. Wind

 5. Vertical Motion and Stability

 6. Atmospheric Moisture

B. Atmospheric Circulation Systems

 1. Scales of Atmospheric circulations

 2. Airmasses, Fronts, and Cyclones

 3. Thunderstorms

 4. Local Winds

C. Aviation Weather Hazards

 1. Wind Shear

 2. Turbulence

 3. Icing

 4. Instrument Meteorological Conditions (IMC)

 5. Additional Weather Hazards

D. Applying Weather knowledge

 1. Aviation Weather Resources

 2. Weather Evaluation for Flight

**Lab Outline**

1) Apply course knowledge to real-world scenario aeronautical decision making (ADM) and critical thinking processes.

A. Aviation Weather Basics

 1. The Atmosphere

 2. Atmospheric Energy and Temperature

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 2. Weather Evaluation for Flight

**GRADING POLICY:**

Test 1 ----------------------------------------------------------------------------------------------------------- 5 points

Test 2 ----------------------------------------------------------------------------------------------------------- 15 points

Test 3 ------------------------------------------------------------------------------------------------------------15 points

Test 4 ----------------------------------------------------------------------------------------------------------- 15 points

Test 5 ------------------------------------------------------------------------------------------------------------15 points

Test 6 ------------------------------------------------------------------------------------------------------------15 points

Final Exam (40 Questions) ---------------------------------------------------------------------------------20 points

COURSE TOTAL ------------------------------------------------------------------------------------------- 100 points

Grading Scale: 90 Points to 100 Points = A

85 Points to 89.9 Points = B

 80 Points to 84.9 Points = C

 75 Points to 79.9 Points = D

Less than 75 Points = F

Scores will not be rounded up – i.e. 89.99% = B

There is no extra credit in this course.

**GRADED ACTIVITIES:**

**Tests and Final Exam-** The tests and the final exam are all “Closed-Book” in that students may not refer to any document during the test. All answers must come from memory. Test questions will be multiple-choice, fill-in, labeling, explanations, multiple sentences, and scenario based questions. All questions will be from homework material and lecture.

**UNIFORM SHIRT:** Starting on the third Monday of the first semester of attendance in the Flight Science degree, all students must wear the official Aeronautics uniform shirt during class. Failure to wear authorized shirt will reduce student overall course grade by 1% per occurrence.

**DAILY CLASS SCHEULE OF EVENTS:** See Daily Schedule at beginning of this document for calendar of events.

**HOMEWORK:** Homework typically consists of reading assignments from multiple sources plus studying for tests, final exam, and FAA question tests.

**ATTENDANCE POLICY:** The intent of this attendance policy is to ensure:

1. The student gains the most from the learning experience of this course and is present to learn.
2. The student learns the typical attendance responsibilities when employed as a pilot.

Students are expected to be in the classroom and ready no later than the official start time of the class.

Reading assignments, homework, test dates, etc. may be verbally changed and announced during any class meeting. Students are expected to attend all scheduled class meetings, be punctual, write down verbal directions, and then follow all verbal and written directions. It is the student’s responsibility to find out what was missed if the student is late or absent.

Documented circumstances out of the student’s control will be considered for an excused absence. If a student knows in advance that they are going to miss a class meeting or be absent for any length of time, submit an email or written request in advance to the instructor with name, reason for absence, and a proposed make-up date/time. Provide appropriate documentation. Students will typically be allowed to accomplish the graded activity early, not late. Requests for absences for personal reasons will be taken under consideration and have the same advance request requirements.

If an event is missed for a reason out of the control of the student, the student must call the instructor at least 30 minutes prior to the start of the event, if possible, but preferably as soon as it is apparent that a class meeting will be missed. The student will then need to provide hard copy documentation proving the absence was outside of the student’s control.

If a student has no appropriate documentation that proves the circumstances were out of their control or the student fails to call the instructor 30 minutes prior to the class meeting in case of an illness, it will be considered an unexcused absence.

If a late arrival or absence occurs and is excused, the student has 7 calendar days to make-up all graded activity or a zero will be assigned to that activity. If it was an unexcused late arrival or unexcused absence, then the student has 7 calendar days to make up the work at half (50%) credit.

It is the student’s responsibility to ask the instructor to accomplish make-up graded activity.

**STUDENT PARKING:** Reedley College parking permits are required for all vehicles on the Reedley College campus. Students will park only in non-staff designated parking areas. An overflow parking lot on the west side of the campus is also available for parking. Students may purchase a parking permit from the business office in the Student Services building for each semester while attending class. Any violation of the above rules may result in a ticket.

**STUDENT CONDUCT STANDARDS:** Respect for the rights of others and for the College and its property are fundamental expectations for every student.  The “Student Conduct Standards” outlines behavioral expectations, and explains the process for responding to allegations of student misconduct. Students who do not comply with the “Student Conduct Standards” are subject to the College disciplinary actions. The Student Conduct Standards can be found at [**https://www.reedleycollege.edu/about/about-us/policies-and-procedures/student%20conduct%20standards.html**](https://www.reedleycollege.edu/about/about-us/policies-and-procedures/student%20conduct%20standards.html)

**BEHAVIOR:** Any behavior which disrupts other student learning will not be tolerated. Here are some examples of inappropriate in-class behavior:

1. Eating of any kind in class or lab. Covered drinks are allowed in classrooms and in the designated area in lab only. No drinks of any kind are ever allowed in any computer lab.

2. Using foul language

3. Total of student voices being louder than the instructor

4. Cell phones ringing or texting during class

5. Horseplay

6. Discriminatory or harassing remarks based on gender, age, national origin, race, or

 religion, or disability.

**ACADEMIC DISHONESTY:** Students at Reedley College are entitled to the best education that the college can make available to them. Students, their instructors, and their classmates share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

*Cheating*is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another’s work, supplying one’s work to another, giving or receiving copies of examinations without an instructor’s permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

*Plagiarism*is a specific form of cheating: the use of another’s words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

While in possession of quizzes or tests (either during the exam or during review), student may not take pictures or take notes of any kind on the testable material

**DOING WELL IN THIS COURSE:** To learn the most from this course, the instructor suggests the following techniques:

1) Maintain punctual and perfect attendance.

2) Show up prepared (having read text, accomplish homework assignments, studied for tests/final exam, and brought equipment (homework, notepaper, lecture notes, pencils, pens, erasers) to class.

3) Study alone plus participate in a study group three times per week (every week) to do practice questioning for each test/exam.

4) Read and follow all verbal & written (syllabus, exams, homework, project) instructions.

5) Use a day planner and refer to schedule of class activities.

6) Get a good night’s sleep, eat healthy, exercise, and stay hydrated.

7) Ask the instructor for additional help.

**PROBLEMS:** Personal problems that affect your academic performance must be brought to the attention of the instructor immediately. *Problems must be worked out in advance*. Doing poorly on a graded activity or not showing up for a graded activity cannot be fixed “after the fact.”

**CELL PHONE, TABLETS, LAPTOPS:** No use of Personal Electronic Devices (PED) (such as cell phones, tablets) in class (laptops/tablets may be used to take notes in class) or in lab without prior instructor permission.

**STUDENTS WITH DISABILITIES/SPECIAL ACCOMMODATIONS:** If you have a verified need for an academic accommodation or materials in alternate media (i.e. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or section 504 of the Rehabilitation Act, please contact me as soon as possible.

**GRIEVANCE PROCEDURE:** Every effort is made to treat all students the same. If you feel you have been treated unfairly, please inform the instructor immediately so appropriate corrections can be made. If you have a problem with the instructor or the way this course is conducted, please talk to the instructor immediately.

I certify that I have read and understand the syllabus for FLGHT 113 Advanced Meteorology.

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Printed name of student signature date