Cedar Crest College
GSC 106: Weather & Climate (4 credits)
Spring 2008-2009

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Office Hours: Thursday 11am-1pm and by appointment

Course Information

Lecture Meeting Room and Time: Oberkotter 1, TR 9:30-10:45
Lab Room and Time: Blaney Hall 8, M 1:00-4:00 (no meeting 1/19)
Required Text: *Understanding Weather & Climate* 4e, Aguado and Burt

Description: A study of the atmosphere and oceans and their role in the Earth's life-supporting environment; solar radiation and the energy transfers between air, land and sea; elements of weather and climate; atmospheric and ocean pollution, especially as they relate to climate change; chemical and physical oceanography. Lecture three hours, laboratory three hours.

Course Goals: Course content is geared primarily towards non-science majors, and fulfills the Global Studies requirement of the current liberal arts curriculum. Students majoring in the sciences may also find the course enlightening, and perhaps even applicable to their fields of interest.

Course Objectives & Assessment:

Objective 1: At the completion of the course, students will understand basic concepts in geography, meteorology and oceanography, and climate science.

Assessment: Students will show proficiency by successfully completing a series of examinations during the semester.

Objective 2: At the completion of the course, students will show proficiency in data collection and data analysis.

Assessment: Students will show proficiency by successfully completing a series of laboratory exercises during the semester.

Student Assessment (Grading)

Lecture Exams: There will be four lecture exams in addition to a final cumulative exam. Although there are assigned readings almost every week, most of the material you will see on the exams will come from my lectures. Videos may also be used to show examples of relevant concepts. Additional readings may be given to stimulate class discussion and debate. Exams will usually consist of multiple-choice and short answer questions. There will also be a fair number of questions where you are required to DRAW something.

No exam will be given early and there are no make-ups without a valid written excuse. When possible, excuses should be presented BEFORE the scheduled date of the exam. Make-ups must be made within one week of original exam. If you have a scheduling conflict for the date of an exam or field trip, please notify me at least two weeks beforehand.

Weather Reports: Each student will be assigned a week in the semester when they will deliver two live weather reports at the beginning of each class. You will be responsible for collecting appropriate graphics and writing copy, and you will be graded by your classmates.

Semester Project: TBD

Lab Assignments: Throughout the semester there will be lab activities that relate to, or provide extensions to, topics covered in class. Some of these may be online and/or completed at your own pace. *Lab assignments will be collected, graded, and reported as a separate 1-credit lab grade.*

Grade Tally:

4 Lecture Exams (@ 10% each)	40%
Weather Reports	10%
Project	10%
Class Participation	20%
Final Comprehensive Exam	20%

Lab Grade Determined Separately

Grading Scale:

92.0 – 100	A
90.0 - 91.9	A-
88.0 – 89.9	B+
82.0 – 87.9	B
80.0 – 81.9	B-
78.0 – 79.9	C+
72.0 – 77.9	C
70.0 – 71.9	C-
68.0 – 69.9	D+
60.0 – 67.9	D
less than 60	F

Academic Philosophies

Honor Code: I fully support the Cedar Crest College Honor Code as stated in the Customs Book.

Classroom Protocol: I fully support the Cedar Crest College Classroom Protocol Code as stated in the Customs Book.

Plagiarism: I fully support the Cedar Crest policy on plagiarism. Cases of plagiarism, whether deliberate or accidental, will not be tolerated and will result in an "F" for the given assignment.

Learning Disabilities: Students with documented disabilities who may need academic accommodations should discuss these needs with their professors during the first two weeks of class. Students with disabilities who wish to request accommodations should contact the Advising Center.

Attendance: You are expected to attend and actively participate in all lectures and laboratory exercises. I expect you to arrive to class in a timely manner. It is your responsibility to inform me of planned absences and it is your responsibility to collect any assignments, handouts, etc.

The Bottom Line

Your success in this class is up to *you*. I can help you to understand difficult material, but it is your responsibility to read the material before coming to class, to take notes, and to organize information so that you can retrieve it. If you need help improving your study skills, talk to me. I will not know that you are having trouble until test time, and by then, it might be too late!

Recommendations for Success:

1) Attend class—if you are not here, that will affect how well you grasp the material, etc.
2) Prepare ahead of time—read the assigned material BEFORE coming to class.
3) Keep your notes in good order—I recommend that you recopy all notes within 24 hrs of lecture while the material is still fresh in your mind. This will also enable you to ask for missing information in the next lecture. Note taking and note recopying are important study skills.
4) If you do not understand something, ask for clarification—do not be afraid to ask questions. The only dumb questions are those that are not asked.

GSC 106: Weather & Climate
Course Weekly Outline

Week 1 (Jan 20, 22)
Introduction
Structure of the Atmosphere
Solar Radiation and Seasons

Week 2 (Jan 27, 29)
Air Masses and Fronts
Reading Weather Maps
Weather Forecasting

Week 3 (Feb 3, 5)
Energy Balance and Temperature
EXAM #1 (Thurs, Feb 5th)

Week 4 (Feb 10, 12)
Atmospheric Pressure
Atmospheric Moisture

Week 5 (Feb 17, 19)
Atmospheric Stability
Cloud Development

Week 6 (Feb 24, 26)
EXAM #2 (Thurs, Feb 26th)

Week 7 (March 3, 5)
Midlatitude Cyclones
Lightning and Thunderstorms

Week 8 (March 10, 12)
Spring Break
No Classes

Week 9 (Mar 17, 19)
Tornadoes
Tropical Storms and Hurricanes

Week 10 (Mar 24, 26)
Air-Sea Interactions
EXAM #3 (Thurs, Mar 26th)

Week 11 (Mar 31, Apr 2)
Oceanography
Air and Water Pollution

Week 12 (Apr 7, 9)
Climate History
Climate Science

Week 13 (Apr 14, 16)
Climate Politics
EXAM #4 (Thurs, Apr 16th)

Week 14 (Apr 21, 23)
Project Presentations

Week 15 (Apr 28, 30)
Project Presentations

Week 16 (May 2)
No class (Fri schedule)

Final Exam Date: _____