SUFFOLK COUNTY COMMUNITY COLLEGE
EASTERN CAMPUS

Spring, 2008
COURSE OUTLINE

Course Title: Introduction to Weather (Meteorology)
Catalog #: ES17 ~ Hybrid (Blended) Online Course (section #1302)
In class: Tuesday: 11:30-1:40
Instructor: Ken Ettlinger
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Text:
- Lab materials will be available through the NSF funded: “Online Weather Studies” administered by the American Meteorological Society for college level meteorological students and distributed online and in class.

Objectives Of The Course:
1. To familiarize the student with the elements and energies which produce our weather on Long Island and in other parts of the world.
2. To acquaint students with the various weather instruments and how they are used to describe and forecast the weather.
3. To enable the student to become familiar with and understand weather map plotting.
4. The student will know the cause of the seasons and understand the factors that contribute to the differential heating and cooling of land and water.
5. The student will be able to describe the various properties and components of the Earth’s atmosphere.
6. The student will acquire the skills necessary to identify and interpret meteorological phenomena in the field and on weather maps and satellite photographs.
7. The student will understand the relationship between air pressure, the rotation of the Earth and wind circulation patterns.
8. To understand how humans may be profoundly altering the environment through the release of atmospheric pollutants.
9. To provide a background that will enable students to understand mid-latitude cyclones and associated weather fronts.
10. To understand the various factors associated with tornadoes, hurricanes and other types of severe weather.

Procedures:
1. This course requires considerable self-motivation. It is imperative that students spend considerable time each week on the internet completing lecture and lab assignments.
2. Classroom lectures, blackboard sketches and computer assisted presentations will supplement and clarify material presented in the text and online.
3. There will be assigned readings in the text.
4. Lab handouts will provide opportunities to develop practical problem solving skills and reinforce lecture material. Labs will give each student the opportunity to work with the instruments, maps and weather data used by meteorologists. Other lab work will be completed online using data available on the internet.
5. In class work will be divided between lecture and lab. Any problems that prevent students from completing the online part of the course will be addressed during class.
6. Film, video tapes, slides and computer internet resources will be used when appropriate.
7. There will be considerable opportunity for class interaction on the internet CourseSpace site, students are encouraged to participate and ask questions through online discussions.
8. Students are to use the American Meteorological Society (AMS) materials and links on CourseSpace to stay informed about current weather conditions and complete online labs.
9. Real-time data will be used when possible to practice weather map interpretation skills.

This is a blended course. The student is expected to complete much of the course content which is assigned through internet sites that must be connected to: SUNY CourseSpace at: http://CourseSpace.suny.edu/ which is password protected. The AMS DataStream Homepage at: http://www.ametsoc.org/amsedu/dstreme/index.html is useful because of the links to real time maps and data which will be useful to your online investigations.

**Attendance:**
Unless notified by the student, the instructor may withdraw a student after he/she has missed 2 consecutive class sessions or has not participated online within a 7 day period. Chronic lateness will not be tolerated. Students are expected to stay for the entire class or until excused by the instructor.

It is important for students to attend every in class session. Some assignments will be completed in class and crucial details about online assignments will be explained at those times; therefore, the opportunity to collaborate with others and to gain background for the online component of the course will be missed in you’re not present. If any classes are missed for any reason, it is the responsibility of the student to get in contact with a classmate or the instructor prior to the next class.

**How You Will Be Evaluated:**
Your final grade in this course will be determined by the following:

1. 10 (out of 12) Online Quizzes .....30%
2. Online Labs and Classroom Assignments (accepted or not accepted) ........................................20%
3. Online Participation/discussion... 10%
4. 3 out of 4 exams (lowest exam score or missed exam dropped) ........................................40%

100%

1. Quizzes: The ten (10) highest on-line quiz grades will be counted. If you fail to complete the online quizzes by the deadline for any reason, you will receive a zero for that quiz grade. Generally each week’s CourseSpace module will have guidelines on the text and lab content that will help you to review for the quizzes.

2. Online Lab and Classroom Work: There are Lab Investigations offered online through AMS (American Meteorological Society), usually one or two for each week of the course. Each lab is short and concept oriented. I will often introduce the labs in class and cover some background that will help you to complete the on-line labs. During the week you will work on the online investigations which apply the specific things you learned in class to the real-time weather. Current weather maps, satellite images and other data that will allow you to complete the labs which are labeled "Investigations" online that I will convey to you in the form of attachments. You will have to answer the questions posed online via the CourseSpace platform. For each assignment, you receive credit if it is accepted. I will accept an assignment only if you have a majority of the questions correctly and if it is received by the due date. If I don't accept your assignment you will receive 0%. As soon as I receive your
assignment I will send you the correct answers so that you can make corrections. You are allowed to miss 3 assignments without penalty.

I will ask you to hand in some of the classroom assignments. Again, if you miss an assignment in class you will receive 0%. You are allowed to miss 3 assignments without penalty.

3. Tests: 3 out of 4 (in-class) every 3-4 weeks; You will be asked to complete written tests based on: 1) questions similar to those you have answered on your online quizzes and 2) the online lab material that you routinely do each week. This will consist of interpreting weather maps, charts and data tables.

If you are not here for an in-class test, it will be the test dropped (instead of your lowest grade). In rare circumstances (requiring a note of explanation) you may be able to arrange with the instructor to take an exam before the scheduled class exam or within 48 hrs. of an given exam.

4. On-line Participation/Discussion refers to the quality, quantity and timeliness of your responses to discussion questions that I will pose. To obtain maximum credit for this part of the course requirement log in at regular intervals (several times a week) and participate in all discussions.

COURSE CALENDAR AND ASSIGNMENT SCHEDULE:

Meeting 1
Introduction to Online Studies; Air Pressure and Wind
Chapter 1 (part 1): Monitoring the Weather/ Introduction to Weather

Meeting 2
Surface Air Pressure Patterns
Surface Weather Maps
Chapter 1 (part 2): Atmosphere Origin, Composition and Structure

Meeting 3
Atmosphere in the Vertical
Weather Satellite Imagery
Chapter 2 (part 1): Sun Earth Interactions

Meeting 4
In Class Exam #1
Chapter 2 (part 2): Solar and Terrestrial Radiation

Meeting 5
Chapter 3: Temperature and Air Mass Advection
Heating Degree Days and Wind Chill

Meeting 6
Chapter 6 (part 1): Atmosphere Pressure

Meeting 7
In Class Exam 2
Chapter 4: Humidity, Saturation and Stability
Rising and Sinking Air Parcels
Meeting 8
Chapter 5: Forms of Condensation and Precipitation
Clouds Formation, Doppler Radar

Meeting 9
In Class Exam 3
Chapter 6 (part 2): Surface Weather Maps and Forces
Upper-Air Weather Maps
Wind and Weather

Meeting 10
Westerlies and the Jet Stream
Chapter 7: Atmosphere's Planetary Circulation

Meeting 11
Chapter 8: Air Masses and Weather Patterns

Chapter 12: In Class Exam 3
Weather Systems of Mid Latitudes
Chapter 9: Weather Patterns/Extra-Tropical Cyclones
Cyclone Track Weather

Meeting 13
Chapter 10: Thunderstorms and Tornadoes

Meeting 14
Chapter 11: Tropical Weather Systems /Hurricanes
Hurricane Wind Speeds and Pressure Changes

Meeting 15
In Class Exam 4
Chapter 12: Weather Analysis and Forecasting

Final Meeting