Course Title: Introduction to Weather (Meteorology)
Catalog #: MET 101 ~ Hybrid (Blended) Online Course
Instructor: Prof. Ken Ettlinger
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Web Site: Log in to SCC Home Page; Virtual Classroom D2L
Office Hours: M (10-11), T(9-9:30), W(12:30-1:30), TR(9-9:30), F(11-1:30)
Classroom Meeting: Tuesday: 11:15-1:15

Course Objectives:
Upon successful completion of this course, students should be able to:

- Navigate the Internet WWW for research purposes and laboratory assignments.
- Find locations using latitude and longitude coordinates.
- Determine and analyze atmospheric temperature, pressure, density and wind.
  Describe various cloud and fog types and their formation and the associated precipitation types.
- Analyze data on a weather map, including location of air masses and weather fronts.
- Describe the dynamics of thunderstorms, tornadoes, and hurricanes, and demonstrate the ability to forecast these phenomena.
- Given real-time data, provide a three-day forecast for any city in the US.

Attendance Policy:

All students are required to attend every class session for which they are registered. Students are responsible for all that transpires in class whether or not they are in attendance, even if absences are the result of late registration or add/drop activity at the beginning of the term as permitted by college policy. The college defines excessive absence or lateness as more than the equivalent of one week of class meetings during the semester. Excessive absence or lateness may lead to failure in, or removal from, the course.

Student Requirements for Completion of the Course:

In class as well as internet learning will be an integral part of the course. Time devoted
using both methodologies will be divided between lecture and lab course content. In class lectures and group problem solving will assist you in understanding the internet course content. Individual students should seek assistance with internet operational problems or desire2learn platform issues outside of class at the Skills Center or by contacting Computer Resource personnel as soon as they experience problems.

This is a blended course. The student is expected to complete much of the course content which is assigned on the online learning "Virtual Campus" MET 101 Course Page which you will have to log onto using your Suffolk Community College Student Account. Your accounts are password protected. Expect to log onto the MET 101 Course Page at least two times per week to complete your weekly assignments. It will usually take 3-4 hours of out of class work to complete your online assignments and complete the online weekly quiz.

You will have to complete all online assignments and in-class assignments, quizzes and tests on time and in a way that demonstrates an acceptable level of understanding of the course material in order to pass this course.

Course Description/ Philosophy:

Meteorology is an Introduction to the basic processes described as weather. It is suitable for science as well as non-science majors since it is a "first course" in Meteorology. Basic principles such as temperature, pressure, density, humidity and air movement are studied to provide basis for understanding long- and short-range forecasting, including severe weather phenomena such as hurricanes, tornadoes and storms. This course fulfills the 4 credit laboratory science requirement.

Procedures for Accomplishing Objectives:

1. In class demonstrations, discussions and blackboard sketches will be used to investigate some of the online work in more detail and help to answer your questions not addressed by the internet content and to clarify important concepts.

2. In class lab exercises will provide opportunities to develop practical problem solving skills and reinforce lecture material. Some in class labs will give each student the opportunity to work "hands-on" with instruments used for gathering data; small group in-class assignments will allow for collaborative learning while working with data used by meteorologists and demonstrations will clarify some atmospheric phenomena.

3. Real-time data will often be used for online work on weather map, satellite, meteogram and upper air map interpretation. Many of the online labs will be using real time data available from original sources over the internet. Students will learn to find and utilize the information from those sources including the AMS DataStream Homepage at: http://www.ametsoc.org/amsedu/dstream/index.html. Some of your online lab work is based on data available at the AMS site.
Grading Policy:
Your final grade in this course will be determined by the following:

1. Performance on Online Lecture Quizzes .....30%
2. Completion of Online Labs and Classroom Assignments
   ..........................................................  20%
4. Online Participation/Discussion...  10%
3. Midterm and Final Exams (Includes Lab and Lecture Components)
   ..........................................................  40%
100%

There are detailed specifics on how you will be evaluated on the Virtual Classroom Site for MET 101. You should read these carefully.

Text:
Lutgens, Frederick and Tarbuck, Edward, The Atmosphere: An Introduction to Meteorology. Pearson/Prentice Hall, older editions are fine (available at the campus bookstore or check online sources for less expensive copies).

Lab materials will be handouts generated by the instructor, or online investigations based on the NSF funded: Online Weather or "DataStreme" by the American Meteorological Society for college level meteorological students and educators. Suffolk Community College is a member college of the AMS Online Studies Program.

COURSE CALENDAR AND ASSIGNMENT SCHEDULE:

See detailed requirements including lab investigations and reading assignments by consulting SCC Virtual Classroom- MET 101 Course Pages. The work required for each Module on the Course Page should be completed in one week. Week 1 corresponds to Module 1.

Tues., 1/26

Week 1

Introduction to Online Studies; Weather Elements
Chapter 1 (part 1): Monitoring the Weather/ Introduction to Weather

Tues., 2/2

Week 2

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

Tues., 2/9
Week  3

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

Tues., 2/16  No Class (Mid-Winter Recess)
Week 4
continue online

Chapter 2 (part 2): Solar and Terrestrial Radiation

Tues., 2/23
Week 5

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

Tues., 2/30
Week 6

Chapter 4 (Part 1): Water Vapor, Humidity

Tues., 3/2
Week 7

Chapter 4 (Part 2): Saturation and Stability
Rising and Sinking Air Parcels

Tues., 3/9
Week 8
Midterm Exam (In-Class)
Chapter 5: Forms of Condensation and Precipitation,
Fog, Cloud Formation, Doppler Radar

Tues., 3/16
Week 9

Chapter 6 (part 1): Atmosphere Pressure

Tues., 3/23
Week 10

Chapter 6 (part 2): Surface Weather Maps and Forces
Upper-Air Weather Maps
Wind and Weather

Tues., 3/30 No Classes (Spring Recess)

Week 11
continue online
Westerlies and the Jet Stream
Chapter 7: Atmosphere's Planetary Circulation

Tues., 4/6

Week 12

Chapter 8: Air Masses and Weather Patterns

Tues., 4/13
Week 13

Chapter 9: Weather Patterns/Extra-Tropical Cyclones
Cyclone Track Weather

Tues., 4/20
Week 14

Chapter 10:

Thunderstorms
Tues., 4/27
Week 15
Tornadoes

Tues., 5/4
Week 16

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

Tues., 5/11
Week 17
Chapter 12:
Weather Analysis and Forecasting and Review

Tues., 5/18
Week 18

Final Exam (In-Class)

You will notice that we meet in class on tuesdays except when the college is closed; however, since we are also online learners, there are assignments for each week through the semester whether we meet in class or not.