

GENERAL INFORMATION			
Name: Dr. Curtis McKinney	Phone #: 7-1689		
Course Prefix/Number: MET3702	Course Title: General Meteorology		
Number of Credits: 3			
Degree Type	<input type="checkbox"/> B.A. <input checked="" type="checkbox"/> B.S. <input type="checkbox"/> B.A.S <input type="checkbox"/> A.A. <input type="checkbox"/> A.S. <input type="checkbox"/> A.A.S. <input type="checkbox"/> C.C.C. <input type="checkbox"/> A.T.C. <input type="checkbox"/> V.C.C		
Date Submitted/Revised: 5/15/08	Effective Year/Term: 2008-1		
<input type="checkbox"/> New Course Competency <input checked="" type="checkbox"/> Revised Course Competency			
Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
The above course links to the following Learning Outcomes: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Communication <input checked="" type="checkbox"/> Numbers / Data <input checked="" type="checkbox"/> Critical thinking <input checked="" type="checkbox"/> Information Literacy <input checked="" type="checkbox"/> Cultural / Global Perspective </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Social Responsibility <input type="checkbox"/> Ethical Issues <input type="checkbox"/> Computer / Technology Usage <input type="checkbox"/> Aesthetic / Creative Activities <input checked="" type="checkbox"/> Environmental Responsibility </td> </tr> </table>		<input type="checkbox"/> Communication <input checked="" type="checkbox"/> Numbers / Data <input checked="" type="checkbox"/> Critical thinking <input checked="" type="checkbox"/> Information Literacy <input checked="" type="checkbox"/> Cultural / Global Perspective	<input checked="" type="checkbox"/> Social Responsibility <input type="checkbox"/> Ethical Issues <input type="checkbox"/> Computer / Technology Usage <input type="checkbox"/> Aesthetic / Creative Activities <input checked="" type="checkbox"/> Environmental Responsibility
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Course Description (limit to 50 words or less, must correspond with course description on Form 102): This course will cover general knowledge in meteorology. The student will learn about the atmospheric structure and composition, weather and circulation systems, physics of atmospheric processes; as well as global climate and climate change and their impact on human activities.			
Pre-requisite(s): none	Co-requisite(s): MET3702L		

Course Competencies: (for further instruction/guidelines go to: <http://www.mdc.edu/asa/curriculum.asp>)

Competency 1: The student will be able to understand the difference between weather and climate by:
a. Understanding the difference between weather and climate
b. Identifying the importance and influence of weather and climate in our lives.
Competency 2: The student will be able to describe the structure of the earth's atmosphere by:
a. Describing the composition of the atmosphere.
b. Explaining the vertical structure of the atmosphere.
c. Recording and correlating the layers of the atmosphere.
Competency 3: The student will demonstrate an understanding of the concept of energy by:
a. Describing the difference between energy, temperature and heat.
b. Explaining how heat is transferred in the atmosphere.
c. Identifying the relationship between radiation and temperature.
d. Estimating the earth's annual energy balance.

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Competency 4: The student will be able to distinguish the elements of seasonal and daily temperatures by:

- a. Describing why the earth has seasons.
- b. Determining the daily temperature variations.
- c. Measuring and using the different temperature scales.
- d. Demonstrating how the air temperature is measured.
- e. Analyzing the relationship between air temperature and human comfort.

Competency 5: The student will analyze atmospheric moisture by:

- a. Identifying the states of water.
- b. Comparing and contrasting absolute humidity, relative humidity and dew point.
- c. Demonstrating methods for measuring humidity.
- d. Explaining the relationship between relative humidity and human discomfort.

Competency 6: The student will understand the physical process of condensation and analyze the formation of dew, fog and clouds by:

- a. Describing fog formation and identifying the different types of fog.
- b. Explaining how clouds are formed.
- c. Classifying cloud formations.

Competency 7: The student will understand atmospheric stability and cloud development by:

- a. Defining stability.
- b. Explaining the processes of cloud development.

Competency 8: The student will comprehend atmospheric precipitation by:

- a. Describing the precipitation process.
- b. Identifying the precipitation types.

Competency 9: The student will analyze the atmosphere in motion, relating air pressure and wind formation by:

- a. Conceptualizing the role of atmospheric pressure.
- b. Analyzing the forces that influence wind direction and speed.
- c. Identifying the different types of wind: upper level and surface winds.
- d. Comparing the different wind scales: small-scale, and local winds as well as the general circulation of the atmosphere.

Competency 10: The student will understand how air masses and fronts determine the weather in the United States by:

- a. Defining and describing air masses.
- b. Describing the source regions of air masses
- c. Classifying air masses.
- d. Examining fronts.
- e. Differentiating the various types of fronts: stationary, cold, warm and occluded.

Competency 11: The student will analyze the various weather patterns conducive to the formation of thunderstorms and tornadoes in order to predict when and where severe weather might occur by:

- a. Defining thunderstorms.
- b. Identifying the different types of thunderstorms.
- c. Explaining what is lightning.
- d. Examining the formation of tornadoes.
- e. Examining the formation of waterspouts.

Competency 12: The student will analyze the elements of tropical weather producing

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hurricanes by:
a. Describing the anatomy of a hurricane.
b. Explaining hurricane formation and dissipation.
c. Expressing how and why hurricanes are named.
d. Promoting the beneficial aspects of hurricanes.
Competency 13: The student will be able to analyze the global climate by:
a. Describing the world climates.
b. Classifying climates.
c. Analyzing the global pattern of climate.
Competency 14: The student will evaluate the risks of changing climate, air quality deterioration and global climate relationships by:
a. Describing the earth's changing climate.
b. Analyzing the possible causes of climatic change.
c. Correlating carbon dioxide, the Greenhouse Effect and recent Global Warming.
d. Advocating the need to stop Global Warming.

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