

# **Earth Space and Atmospheric Sciences 1111**

## **Climate and Global Change**

Class Schedule and Reading Assignments

Understanding Weather and Climate, 5<sup>th</sup> Edition – Edward Aguado and James E. Burt

Additional readings will be posted on BlackBoard

***January 16***

***NO CLASS - MLK Day***

***January 23***

Pre-course survey

Introduction

Weather vs. climate

Factors influencing climate

**Chapter 1 – Composition and Structure of the Atmosphere**

**Chapter 2 – Solar Radiation and the Seasons**

***January 30***

Atmospheric composition

Energy and energy transfer

**Chapter 3 – Energy Balance and Temperature**

**“Cap and Trade” Assignment**

***February 6***

Radiation laws

Radiation distributions

Earth–sun relationships

**Chapter 5 – Atmospheric Moisture (pp. 133-136, 140-145 only)**

***February 13***

Movie – What’s Up with the Weather

“Review” Assignment

***February 20***

Water vapor and its effects on climate

Atmospheric circulations and large scale weather patterns

Atmospheric oscillations

El Niño

Unit 1 material wrap-up/review

***February 27***

***TEST 1***

Understanding Weather Patterns

**Chapter 8 – Atmospheric Circulation and Pressure Distributions**

**Chapter 9 – Air Masses and Fronts (pp. 273-281 only)**

***March 5***

Air masses

Air masses and fronts

Synoptic scale meteorological overview

Air pollution

Urban heat islands

Ozone

**Chapter 13 – Weather Analysis and Forecasting (pp. 418-419, 425-428, 445-449 only)**

**Chapter 14 – Human Effects: Air Pollution and Heat Islands**

***March 12***

Movie – The Fallacy of Global Warming

The use of meteorological and climatological models

Going from weather to climate

Köppen climate classifications.

**Chapter 15 – Earth's Climates**

***March 19***

A more in-depth look at climographs

Classifying Earth's Climates

Movie - Global Climate Regions

**"The Earth's Climates" assignment**

***March 26***

Climograph in-class group assignment

Unit 2 Review

IPCC Fourth Assessment - Summary for PolicyMakers

***April 2***

***NO CLASS - Spring Break***

***April 9***

***TEST 2***

Measuring the earth's average temperature

IPCC and global climate change response

**Chapter 16 - Climate Change: Past and Future**

**"Climategate" Assignment**

**"Personal Climate Change Statement" Assignment**

***April 16***

Past and Future Climates

Looking at the worst fears of global warming

Questions concerning global warming

Unit 2 material wrap-up

***April 23***

***Final Exam***

***May 7***

The global environment and personal responsibility