

Earth Space and Atmospheric Sciences 1111

Climate and Global Change

Class Schedule and Reading Assignments

Understanding Weather and Climate, 5th 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