ATMS 501 Class Schedule

WEEK 1
September 24-26 Chapter 1 Brief Survey of the Atmosphere
September 27 §2.1 Components of the Earth System
Homework exercises 1.9-1.18,

WEEK 2
October 1-4 Chapter 2 The Earth System
Homework exercises 2.10, 2.14, 2.15a, 2.16- 2.21.

WEEK 3
October 8,9 §3.1 and 3.2 Hydrostatics
Skip 3.1.1
October 10 §3.3, 3.4 First Law of Thermodynamics
Skip 3.3.3, §3.4.4
October 11 §3.5 Water Vapor in air
Skip derivations
Homework exercises 3.22, 2.24, 3.26, 3.27, 3.28, 3.29, Supplementary Exercises I and II.

WEEK 4
October 15 §3.6 Static Stability
October 16-17 §4.1, 4.2 Quantitative Description of Radiation
October 18 §4.3 Blackbody radiation
Homework exercises 4.12-4.23, 4.27

WEEK 5
October 22 §4.4 Physics of Scattering, Absorption and Emission
October 23 §4.5 Radiative Transfer in Planetary Atmospheres
Skip §4.5.3. §4.5.4
October 24 §4.5.5 Remote Sensing
October 25 §Top of Atmosphere Radiative Balance
No Homework

WEEK 6
October 29 Midterm
October 30 §7.1 Kinematics
October 31 §7.2 Dynamics of Horizontal Flow
Skip Box 7.1 and §7.2.8-7.2.10
November 1 §7.3 The Primitive Equations
Homework exercises 7.7, 7.18, 7.19: additional exercises TBA.

WEEK 7
November 5 §8.1, 8.2 Extratropical Cyclones
November 6 Tropical Phenomena

Nov. 7 §5.3 Introduction to Atmospheric Chemistry (Lyatt Jaegle)
Nov. 8 §5.6 Tropospheric Chemical Cycles (Becky Alexander)

WEEK 8
Nov. 13 Tropospheric and stratospheric ozone
Nov. 14 Aerosols; §6.1 Cloud physics: nucleation
Nov. 15 §6.2, §6.3, §6.4 Warm clouds

WEEK 9
Nov. 19 §6.5 Cold clouds
Nov. 20 §8.3 Deep convection
Nov. 21 §8.4 Tropical cyclones

WEEK 10
Nov. 26 §9.1 Atmospheric turbulence
Nov. 27 §9.2 Surface energy balance
Nov. 28 §9.3, 9.4 Vertical structure and evolution
Nov. 29 §10.1 The Global Energy Balance
Nov. 30 Perspectives inumerical weather prediction (optional)

Week 11
Dec. 3 §10.2 Free and Forced Climate Variability
Dec. 4 §10.2 Free and Forced Climate Variability
Dec. 5 §10.3 Climate sensitivity and Feedbacks
Dec. 6 §10.4 Greenhouse warming
Dec. 7 Review session (optional)

FINAL EXAM
Monday, December 10, 8:30-10:20am.