FUNDAMENTALS OF ATMOSPHERIC SCIENCE, FALL 2019

COURSE: ..... EAS B3090
ROOM/TIME: ..... MR 1128, M/W 12:30-1:45
INSTRUCTOR: ..... James Booth
OFFICE: ..... Marshak 927
OFFICE HOURS: ..... MW 1:45 - 2:15 or by appmt.
PHONE: 212-650- 6471
EMAIL: .....jbooth@ccny.cuny.edu

https://jfbooth.ccny.cuny.edu/EAS0309/

Prerequisites: Math 20300 or 20900 (or equivalent) and Physics 20700 or 20400 (or equivalent), or instructor's permission.
Textbook (required): *Atmospheric Science: An Introductory Survey* (2nd edition), by John M. Wallace and Peter V. Hobbs, published by Academic Press
Description: An introductory survey to the field of Atmospheric Science, with special attention given to thermodynamics and dynamics. Atmospheric science is a complex field of study that builds on physics, chemistry and math, hence the prerequisites. This course covers rudimentary components of chemistry and cloud microphysics and in depth details of thermodynamics and dynamics. This course is intended to provide an introductions and solid foundation for students interested in atmospheric physics.

Grading:	4 Exams (4 X 20%)	80%
	Term Project	20%

Notes: One homework, or the class participation can be dropped. No final exam.
.

Course Outline (see webpage for precise dates and book pages):

Weeks 1-7:	Thermodynamics
Weeks 8-10:	Chemistry, Cloud Microphysics
Weeks 11-14:	Dynamics and Weather systems.

Expectations/Rules: Be respectful of your fellow students and the professor; do not act out in a way that prevents others from learning or dissuades others from participating.
Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished according to City College regulations. Read more about the CCNY Policy on Academic integrity at: ***http://www1.ccny.cuny.edu/upload/academicintegrity.pdf***

Learning Outcomes:

1. Describe atmospheric composition and structure (temperature, pressure, and wind).
2. Apply atmospheric thermodynamic principles to analyze air motion.
3. Use moist thermodynamics to understand saturated ascent.
4. Apply microphysical laws to distill the processes in cloud, rain, and ice formation.
5. Understand the Coriolis force, geostrophic wind, and thermal wind and apply them to explain atmospheric general circulation in the mid-latitudes.