GEOL 3305/5365 Introduction to Meteorology and Climatology
GEOL 3185 Meteorology Laboratory

Lecture: 3 credits
Laboratory: 1 credit (mandatory)

Instructor: Prof. Arne Winguth (awinguth@uta.edu; Ph: 272-2977)

Time & Location: GS104 MWF 9-9:50 pm

Text: Wallace, J.M., and P.V. Hobbs, Atmospheric Science, 2nd Edition, Academic Press, 483pp.

Course Description:

This course covers essentials in physical and dynamical meteorology including atmospheric hydrostatics and thermodynamics, cloud physics, and radiative transfer, atmospheric chemistry, large scale atmospheric motions, an elementary interpretation of the general circulation, and synoptic meteorology. Prerequisite: six hours of science and junior standing, or permission of the instructor. Offered as GEOG 3305 and also for Science and Engineering majors.

Syllabus:

1. Introduction
2. The Earth System
3. Atmospheric Thermodynamics
4. Radiative Transfer
5. Atmospheric Chemistry
6. Cloud Microphysics
7. Atmospheric Dynamics
8. Weather Systems
9. Atmospheric Boundary Layer
10. Climate Dynamics
11. Paleoclimate

Grading:

Lecture (3 credits) Lecture Exams (2) 50%, Final Exam 35%, Lecture Quizzes (3) 15%
Lab (1 Credit) Lab Midterm 10%, Lab Final 20%, Weekly Lab Assignments (9) 70%

Links: National Weather Forecast
National Center for Atmospheric Research
National Science Foundation
National Oceanographic and Atmospheric Administration