

EAS 4801 — Dynamics Practicum

Goals of the Course:

This laboratory course is designed to help students understand the structure and dynamics of the atmosphere through interpretation and analysis of weather charts. It provides students an opportunity to study the real weather events using concepts and theories learned in Atmospheric Dynamics EAS-4655 (or Introductory Fluid Dynamics and Synoptic Meteorology EAS-6502).

Schedule:

Week 1 (Aug 23): Introduction and overview

Week 2 (Aug 30): Field trip to the National Weather Service Weather Forecast Office at Peachtree city, GA

Week 3 (Sep 6): GT Holiday, no class

Week 4 (Sep 13): Surface and upper-air data analysis – Part I

Week 5 (Sep 20): Surface and upper-air data analysis – Part II

Week 6 (Sep 27): Wind field analysis

Week 7 (Oct 4): Estimate the horizontal flow characteristics associated with a cyclone – Part I

Week 8 (Oct 11): Estimate the horizontal flow characteristics associated with a cyclone – Part II

Week 9 (Oct 18): Temperature and wind field of a high pressure system – Part I

Week 10 (Oct 25): Temperature and wind field of a high pressure system – Part II

Week 11 (Nov 1): Analysis of vertical stability with thermodynamic diagrams

Week 12 (Nov 8): Frontal Analysis

Week 13 (Nov 15): Balanced flow – Part I

Week 14 (Nov 22): Balanced flow – Part II

Week 15 (Nov 29): Case study – Extratropical cyclone of October 25-27, 2010

Week 16 (Dec 6): Review session