

Introduction to the Fundamentals of Atmospheric Science

CLIM-111/PHYS-111

Fall Semester 2022; Monday & Wednesday, 10:30-11:45am

Location: Horizon Hall, Room 3010

Instructors: Profs. Michael E. Summers & Zafer Boybeyi



Overview: This course introduces the student to the fundamentals of atmospheric science. The overarching goal is to provide the student with a “big-picture” view of weather and climate. The specific goals are to help the student understand the state of the Earth’s atmosphere and how it evolves, its complex history, its future evolution, and human influences. Course lectures includes information on the processes that control the structure and evolution of the atmosphere on short times (e.g., weather) and long times (e.g., climate). Topics include atmospheric heating/cooling, temperature variability, cloud physics and precipitation, atmospheric dynamics, weather and forecasting, atmospheric pollution, and climate change. The Earth’s atmosphere will be compared with those on other planets, and we will discuss what we have learned about other planetary atmospheres that help us understand how the atmosphere of the Earth formed and evolves.

Text: *The Atmosphere: An Introduction to Meteorology, 14th Edition*, Lutgens, Tarbuck, & Tasa, Prentice Hall, 2016. CLIM-112/PHYS-112 is the associated laboratory course, conducted and graded separately, but the content of which is coordinated with that of CLIM-111/PHYS-111 to illustrate concepts in more depth, and to give students experience with the practical aspects of atmospheric science. YOU MUST TAKE EITHER PHYS-112 OR CLIM-112 IN ORDER TO GET THE LAB CREDIT

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