

## Physics 4327, 4329

TERM: Fall 2020

Instructor: Rosa M. Fitzgerald, PhD

Course on line, Fridays 10 am-12 pm.

Office hours: Fridays after class

Objective: To understand the principles, radiation schemes and dynamic laws that govern the Atmosphere.

Topics to be covered:

- Introduction
- The Momentum Equation, The Continuity Equation
- The Planetary Boundary Layer
- The General circulation
- Properties of Radiation
- The Electromagnetic Spectrum
- Atmospheric Transmission
- Beer-Lambert Law and Optical Depth
- Scattering and Absorption by Aerosol Particles
- Optical Studies of Aerosols
- Radiative Transfer with Multiple Scattering
- Photochemistry
- Climate Change
- Numerical Prediction

Grading System:

- Midterm 40%
- Final 60%