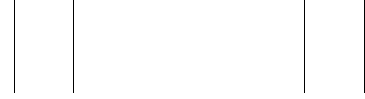


Dⁿ
College



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M: Course Objectives/Learning Outcomes

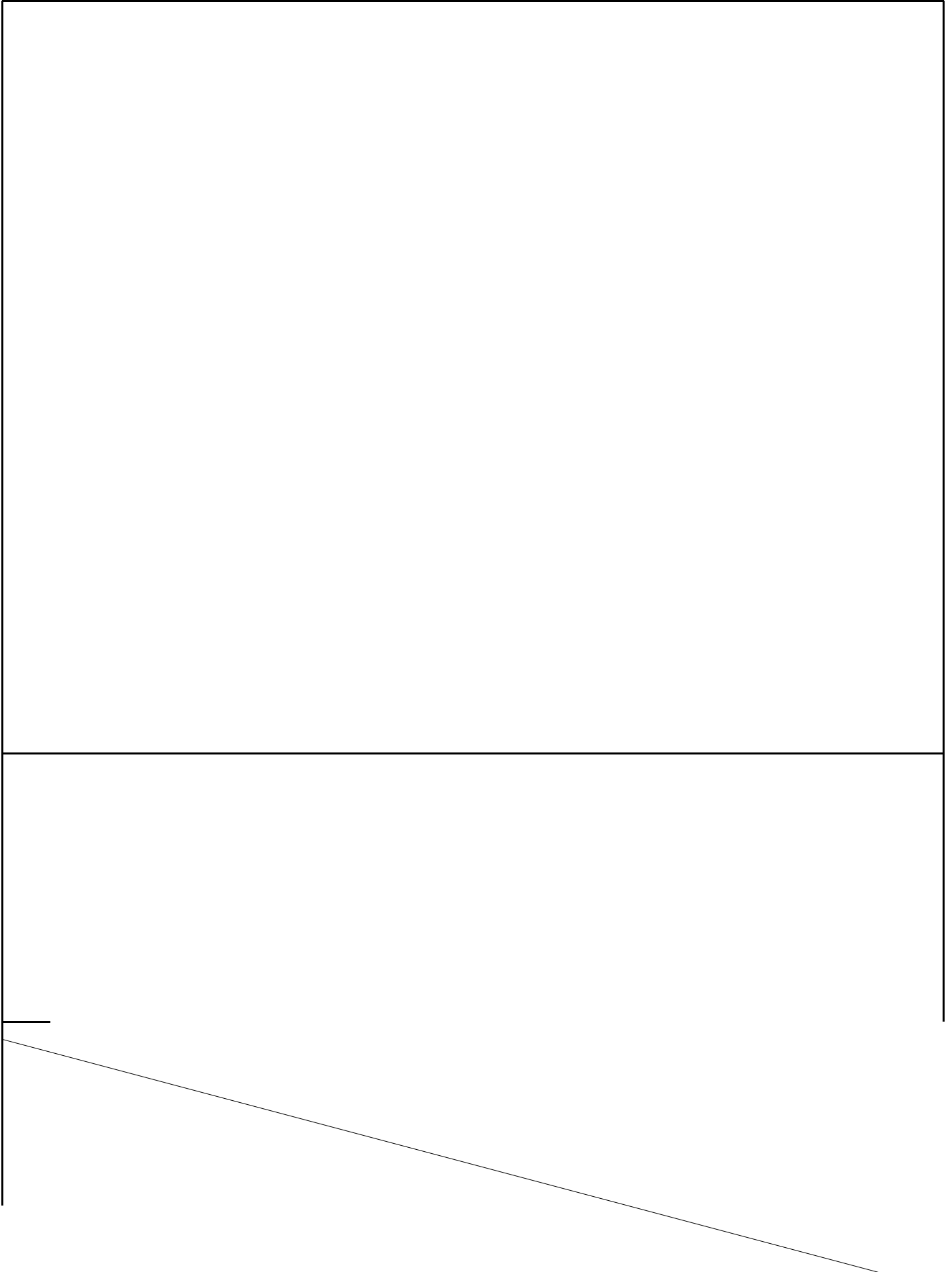
At the conclusion of the course the successful student will be able to:

1. Describe and use the frameworks of science applicable to 1st-year physical geography.
2. Think critically and examine climatological, meteorological and biogeographical issues in a scientific context at local, regional and global scales.
3. Describe and explain the processes that occur within earth's atmosphere, hydrosphere and biosphere systems, and identify and describe interactions among these systems.
4. Communicate effectively using the language, graphical presentation methods and quantitative methods employed in physical geography.
5. Connect theoretical applications to "real-world" observations and measurements.

N. Course Content

1. Introduction
 - Scientific method
 - Systems theory and its application to planet Earth
 - Sun / Earth geometry
2. Solar Energy and Radiation Laws
 - First Law of Thermodynamics
 - Electromagnetic radiation
 - Wien's Displacement Law, Stephan-Boltzmann Law and the Inverse Square Law
 - Variation in the receipt of solar radiation
3. The Earth's Atmosphere
 - Evolution of the modern atmosphere
 - Classification of the atmosphere
 - Anthropogenic atmospheric pollutants and their effects
4. Energy Concepts, Energy Balance
 - Second Law of Thermodynamics
 - Energy transfer, transmission and absorption
 - Heat energy concepts
 - Radiation and energy balances
5. Temperature Variation
 - Influences on temperature
 - Temperature patterns
 - Measurement of temperature
6. Pressure and Atmospheric Circulation
 - Pressure and its variation, distribution and measurement
 - Gas Law
 - Forces influencing the direction and speed of upper level and surface winds
 - Patterns of atmospheric and oceanic circulation
 - Macro- and meso-scale winds
7. Moisture in the Atmosphere
 - Indices of water vapour content
 - Methods and forms of condensation

Course and Subject Number



Course and Subject Number

