

## P 7.2

# ONLINE DELIVERY OF METEOROLOGY USING THE BLACKBOARD PLATFORM

Aribilola S. Omolayo, Ph.D.  
Department of Geography, California State University  
Fresno, CA 93740-0069  
samuelo\_omolayo@csufresno.edu

California State University, Fresno witnessed unprecedented dramatic pedagogical shift from the traditional classroom teaching to an online mode of delivery in the fall of 2003. The shift resulted from the aggressive promotion of the use of instructional technology, increasing student enrolments, budgetary constraints, and incentives. This presentation describes the online delivery of Geography 115 (Violent weather and climatic hazards). Geography 115 is an upper division General Education integration course. Despite the inherent abstract concepts, complex meteorological terms, the 3-D nature of atmospheric circulations and weather systems, required use of mathematics, and a compulsory 4000-word term paper students' demand for the course has been phenomenal. Utilization of Blackboard as a delivery platform will allow for wider and effective dissemination of information. The layout of Blackboard consists of seven parts: Announcements, Faculty Information, Syllabus, Course Documents, Communication, Grade Book Assessment, and Student Tools. The platform allows the uploading of PowerPoint presentation of lectures with video and voice capability. The operational format is graphically displayed below.

The curriculum is composed two broad subdivisions; Atmospheric Dynamics, which serves as foundation for the second section, Severe Weather and Climate Hazards. The main topics in the first section consists of the vertical structure of the atmosphere and atmospheric boundary layer; data observation and measurement emphasizing the operational aspects of meteorological equipments as (radar, satellites rawinsonde, wind profiler and buoys); atmospheric stability and stability indices; humidity measures and cloud developments, including Bergeron-Findeisen Process, Clausius-Clapeyron and Junge equations; pressure-gradient force, quasi-hydrostatic relation, and Coriolis effect; surface and isobaric weather chart features such as upper air troughs and ridges, divergence and convergence, jetstreams and jetstreaks and their importance for the development, intensification, and propagation surface weather systems; as well as air masses and fronts.

The violent weather and climatic hazards section comprises of topics such as severe thunderstorms (multicell cluster, squall line, and supercell), lightning and thunder, windstorms, cold waves and heat waves, snowstorms and blizzards, hailstorms, drought, flood, the El Niño – Southern Oscillation and La

## **P 7.2**

Niña. Each phenomenon is treated along the following general format: definition and physical description; geographical location, spatial patterns and temporal distribution; classification; physical and anomalous processes or conditions in the development, intensification, propagation, and dissipation; technology (satellite imagery, radar observations and specific observation networks), as well as data acquisition and analysis. Also discussed are indices that are pertinent to the phenomenon, methods of forecasting, atmospheric models, mathematical relations, and scales of intensity. Case studies, teleconnections, human and environmental impacts, disaster preparedness, and ethical issues are included. Every topic is concluded with a recapitulation of the keywords, practical activities, relevant website addresses, review questions, and mathematical problems.

**P 7.2**

**MAIN COMPONENTS OF BLACKBOARD**

