

## **Online Weather Studies Diversity Project: Enhancing an HBCU Weather and Climate Course**

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Tennessee State University (TSU), established in 1912, is one of about 105 Historically Black Colleges and Universities (HBCUs) in the U.S. Enrollment is just over 9,000 on two urban campuses in Nashville, Tennessee. The undergraduate student population is over 85 percent African American. Most students enroll in the Weather and Climate (GEOG 3500) course in order to fulfill upper-division general elective requirements. The course also fulfills requirements for Education majors. Tennessee State University has no formal earth sciences program. Only a Minor in Geography is available with approximately 20 students currently electing to complete it

Online Weather Studies (OWS) materials are being used to enhance the course content in an effort to increase students' interest. Among the learning objectives met through incorporating the OWS material are for students to be able to: 1.) interpret weather and climate maps and remote sensing imagery, 2.) understand concepts of scale, space, and time with respect to atmospheric processes, and 3.) develop and effectively employ an extensive vocabulary of atmospheric science terminology.

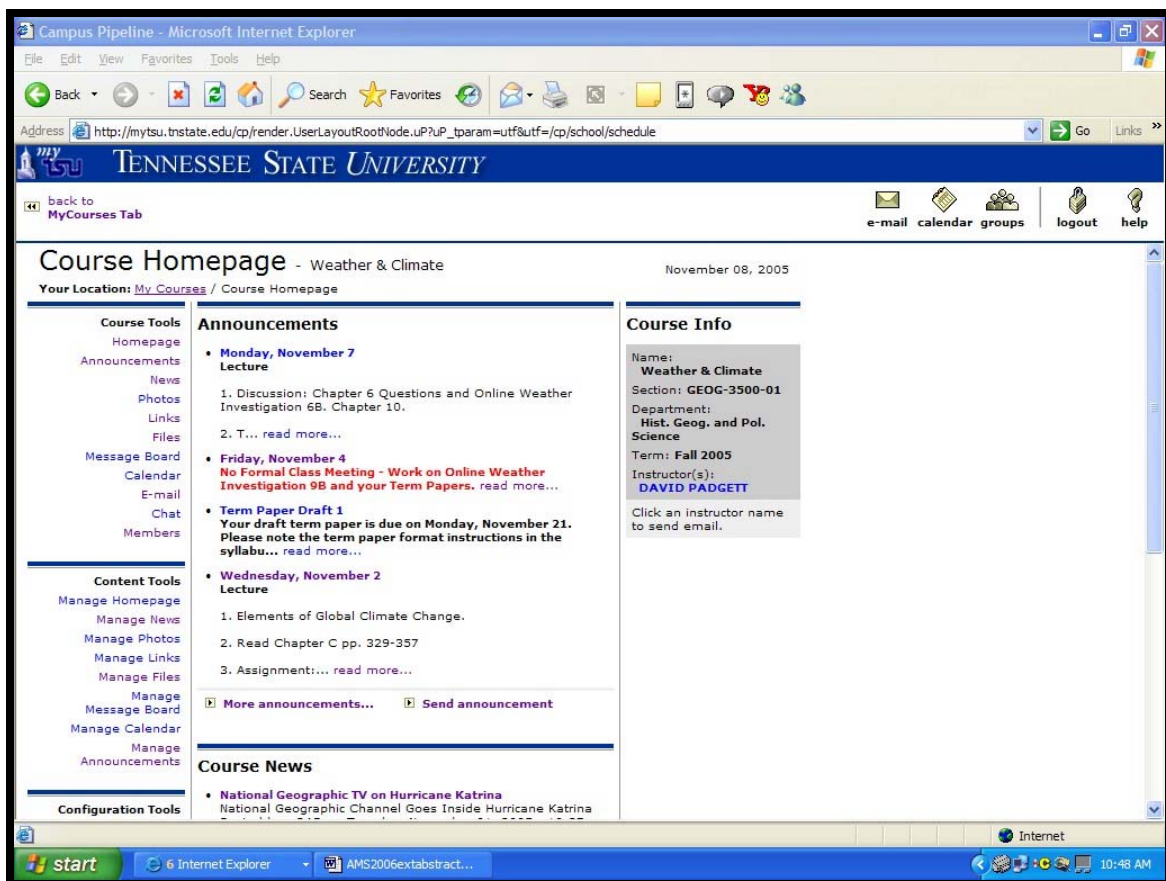
During the fall 2005 semester, the majors of students enrolled in the Weather and Climate course range from Biology to Spanish. Two pre-service teachers (Education majors) are taking the course to meet degree and certification requirements. The content delivery for GEOG 3500 includes both traditional classroom lecture and online materials. Tennessee State University's "MyTSU" online support system is used as a major mode of instructor-student communication (Figure 1). Following a brief in-class demonstration, students are able to access the OWS content through a link posted on the course homepage.

In terms of the method of delivery, each week, the class is assigned an Online Weather Studies Investigation (OWSI) accompanied by lectures clarifying potentially unfamiliar terminology. Normally, the OWSIs are assigned on a Monday and are due the following Monday. At the midterm, most student progress is satisfactory; however, attendance is less than acceptable. Some students appear to be only mildly interested in the subject matter. A Course Survey (Appendix) administered to the students brought forth more tangible indications of students' experiences.

Contrary to their seemingly lackadaisical approach to the course, the majority of students report that the OWS content makes the course somewhat to much more interesting than they expected. They also claim to have become more interested in weather and climate and pay more attention to daily television/newspaper weather forecasts. The majority of the class report that they now have a "much better" understanding of weather and climate.

Students estimate that they spend 2.1 hours per week completing course assignments which for some of them is much more time than expected and less for others. Most consider the course equally to somewhat more challenging than their other classes. Half of the students have never previously taken a geoscience course. None of the students have completed more than one other geoscience course. About half of the students state that after taking Weather and Climate, they are more likely to take another geoscience course. Half of the students strongly recommend the course for those interested in the earth sciences. The majority of students, if given a chance to reconsider, would “definitely” decide to take the course.

In general the students’ experience appears to be positive. However, they were not pleased with the high cost of the OWS textbook.



**Figure 1.** The Weather and Climate (GEOG 3500) course homepage on TSU’s MyTSU online support system.

The dynamic, technical, and "real time" nature of the OWS content is expected to result in increased student enrollment in the course and in the Geography Minor program. Also expected is more k-12 teacher participation in TSU's partnership in the Global Learning and Observations to Benefit the Environment (GLOBE) program. A larger mission is that of attracting African American students to research and career opportunities in the earth sciences. A completely on-line offering of GEOG 3500 supported by OWS content is being developed and will begin to be taught during the summer of 2006.

## Appendix

### Weather and Climate (GEOG 3500) Course Survey

1. Your major and minor \_\_\_\_\_
2. Is this course required for your major or minor? Circle one Yes No
3. Compared to my other courses, GEOG 3500 is.....
  - a. much more challenging
  - b. somewhat more challenging
  - c. equally as challenging
  - d. somewhat less challenging
  - e. much less challenging
4. After taking this class I have become \_\_\_\_\_ interested in weather and climate.
  - a. much more
  - b. somewhat more
  - c. no more or less
  - d. somewhat less
  - e. much less
5. After taking this class I pay \_\_\_\_\_ attention to daily television/newspaper weather forecasts.
  - a. much more
  - b. somewhat more
  - c. no more or less
  - d. somewhat less
  - e. much less

6. The real-time Online Weather Studies content has made this course \_\_\_\_\_ interesting than I expected.

- a. much more
- b. somewhat more
- c. no more or less
- d. somewhat less
- e. much less

7. The textbook and materials required for this course are \_\_\_\_\_ expensive than I expected.

- a. much more
- b. somewhat more
- c. no more or less
- d. somewhat less
- e. much less

8. After taking this class I am \_\_\_\_\_ more likely to take another geosciences course.

- a. much more
- b. somewhat more
- c. no more or less
- d. somewhat less
- e. much less

9. I would \_\_\_\_\_ that students interested in the geosciences take this course.

- a. strongly recommend
- b. recommend
- c. not recommend
- d. don't know

10. I have taken \_\_\_\_\_ geosciences courses prior to taking this one.

- a. 0
- b. 1
- c. 2
- d. 3
- e. more than 3

11. After taking this course I have a \_\_\_\_\_ understanding of weather and climate.

- a. much better
- b. somewhat better
- c. no more or less better
- d. somewhat less
- e. much less

12. I spent \_\_\_\_\_ hours per week completing assignments for this course.

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4
- f. more than 4

13. The number of hours I spent working on this course was \_\_\_\_\_ than I expected.

- a. much more
- b. somewhat more
- c. no more or less
- d. somewhat less
- e. much less

14. If I had a chance to reconsider, I would \_\_\_\_\_ take this course.

- a. definitely
- b. probably
- c. probably not
- d. definitely not
- e. don't know

15. If you answered probably or definitely not, please briefly explain why below.

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**\*If you have any additional comments, please write them on the back of this questionnaire.**