

USING THE AMS CLIMATE STUDIES CURRICULUM IN AN HONORS COURSE SETTING

James Westgate, Dept. of Earth & Space Sciences, Lamar University,
Texas State University System, Beaumont, TX 77710

The new AMS Climate Studies curriculum was used to introduce an academically diverse group of Lamar University Honors students to the concepts of global climate science and global climate change in an Honors Seminar Setting called "Climate Change." With a student body of 14,000+, Lamar University is one of the most racially diverse universities in Texas, with 52% White, 27% African American, 10% Hispanic, 3% Asian, 1% American Indian, and 4% International students (2012 data). Lamar University is located in Jefferson County, Texas, which is home to four oil refineries and numerous petrochemical plants. Many students come from families who work in the petrochemical industry and are skeptical of predictions about global climate change.

Thirteen honors students participated in the Honors Seminar. The background of the students varied from science and engineering majors to those majoring in the humanities. The AMS Climate curriculum was supplemented with videos from NASA and "An Inconvenient Truth." Pre- and post-course surveys recorded the students' opinions about global climate change. The post-seminar survey showed significant improvement in the students' awareness of climate change processes.

PRE-/POST-SEMINAR SURVEY

- | | % CORRECTLY ANSWERED | PRE- | POST-SEMINAR |
|--|----------------------|------|--------------|
| 1. The Earth's main greenhouse gas is: | | | |
| a. CO ₂ | | | |
| b. methane | | | |
| c. ammonia | | | |
| d. CFC's | | | |
| e. H ₂ O | | | |
| 2. Melting glaciers will not affect sea level because melt water exactly replaces the water displaced by floating ice. | | True | False |
| 3. We do not have enough data to determine if the Earth is warmer than it was in 1800 A.D. | | True | False |
| 4. Earth's current average temperature is now warmer than at any time in the geologic past. | | True | False |
| 5. The primary source of energy which heats the atmosphere is: | | | |
| a. nuclear | | | |
| b. geothermal | | | |
| c. solar | | | |
| d. wind | | | |
| e. fossil fuels | | | |
| 6. Global warming theory was created by Al Gore and the liberal media. | | True | False |

7. The Earth's oceanic and atmospheric systems are too large to be impacted by human activities. True False
8. The world's population now exceeds ___ billion people. a. 2 b. 3 c. 4 d. 6
e. 7
9. The world's population is about __ times greater than when the Industrial Revolution began 200 years ago.
a. 2 b. 3 c. 4 d. 5 e. 7
10. The Beaumont area's elevation was at sea level about ____ years ago.
a. 10,000 b. 100,000 c. 1 million d. 10 million e. 100 million

PARTICIPATING HONOR STUDENTS' MAJORS

BIOLOGY, PRE-MED-	1
CHEMISTRY-	1
ENGINEERING, CHEMICAL-	3
ENGINEERING, CIVIL -	2
ENGINEERING, ELECTRICAL-	1
EXERCISE & FITNESS MANAGEMENT-	1
FAMILY & CONSUM. SCI., DIETETICS-	1
NURSING-	2
SOCIOLOGY-	1

CLASS RANK

FRESHMAN-	0
SOPHOMORE-	1
JUNIOR-	5
SENIOR-	7