Homework Assignment #2  (due W February 19, 2018)
Physics 140: The Greenhouse Effect

Name (Last, First): ___________________________ RUID: __ __ __ __ __ __ __ __

Grade: ______/ 50          (12pts Group Work + 38 Problems/Questions)

Group Work Assignment Sheets (Total = 12 points)
1. (3 pts) W 2/8
2. (3 pts) M 2/13
3. (3 pts) W 2/15
4. (3 pts) M 2/20

Reading
1. Global Warming (GW) pp. 19 - 34 (Ch. 3 and part of Ch. 4).
2. Beyond Smoke and Mirrors (BSM) pp. 79 - 96 (Ch. 6).
3. Big World Small Planet (BWSP) pp. 28 - 59 (Ch. 1).

Problems/Questions (Total = 40 points)

1. (5 points) GW p. 18 (end of Chapter 2) Problem 4. Please give energy “payback
time” in days. Also, please calculate the **power (not the energy)** associated with
covering the area of Lake Mead with solar panels and then compare it with the
power associated with the Hoover Dam.
2. (5 points) GW p. 18 (end of Chapter 2) Problem 5.
3. (8 points) GW (end of Chapter 3) p. 27 Problem 2.
4. (4 points) What is the “Quadrupole Squeeze” referred to in BWSP? Please respond with a minimum of two sentences.

5. (4 points) Has the Earth ever been warmer than it is today? Please respond with a minimum of two sentences.
6. (4 points) What is energy intensity and please describe its decline in the US (see Figure 6.1 in Richter’s BSW) from 1800 to 2000 using a minimum of three sentences.

7. (4 points) Are there greenhouse gases that have a stronger effect on global warming than carbon dioxide and, if so, what are they?

8. (4 points) Please explain why geologists often refer to the current geological epochs as the “Anthropocene” and describe it in a minimum of two sentences.