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PSU GAIA***Gaia-The Earth System*****Earth 002, Section 1: Fall, 1993  
26 Mineral Sciences Building****Instructor**Lee R. Kump  
Associate Professor of Geosciences**Teaching Assistant**Karen Bice  
Graduate Student, Dept. of  
Geosciences**Office**210 Deike Building  
868-1274; Wed 10-11, Th 2:30-3:30312 Deike Building  
863-1666; Wed, Th, 1:30-2:30**Grading**

Midterm Exams (2@25% each): 50%

Exam 1: Friday Oct. 1

Final Exam: 30%

Exam 2: Friday Nov. 12

Homework 20%

Final Exam: Tues. Dec. 14, 12:20-2:10 pm

Exams will be multiple choice, short answer, and essay. They will cover material presented in class and in assigned readings. Make-up exams will only be scheduled, and late homeworks accepted without substantial penalty, only *if* the student notifies the instructor *in advance* of the due date. The make-up exams, while fair, are all essay and considered by many to be more difficult!

**Text**

The Bookstore has stocked *Healing Gaia* by Lovelock. We will have required readings from this text assigned throughout the semester. In addition, copies of draft chapters for a textbook manuscript are available in the bookstore. The textbook is being written by Earth 2 instructors, and should serve as a good study aid.

## Earth 002: Gaia-The Earth System Fall1993

<u>Dates</u>	<u>Topic</u>	<u>Text Chapter</u>
Week 1	Course Introduction	Intro, 1
"	The Anatomy of the Planet	2
Week 2	Physiology of Gaia: The <i>Daisyworld</i> Analogy	3
Week 3	Planetary Metabolism: The Carbon Cycle (esp. 107-116; 131-132)	6
<b>Global Climate Change</b>		
Week 4	Atmospheric Composition, Earth's Energy Balance, and the <i>Greenhouse Effect</i>	7
"	Carl Sagan's Faint Young Sun Problem	
Week 5	Glaciation	
<b>*** Oct 1: Midterm Exam 1 ***</b>		
"	El Niño and Pennsylvania Climate	
Week 6-7	Modern Greenhouse Problem	8 (153-156; 166-171)
<b>Origin, Evolution, and Extinction of Species</b>		
Week 8	Origin of and Early Life on Earth	4
Week 9	Mass Extinctions	review 140-146

