Eastern Illinois University
Revised Course Proposal
EIU 4101G, Spaceship Earth: The Present State

1. **Catalog Description**
   EIU 4101G. Spaceship Earth: The Present State. (3-0-3) F,S,Su. Spaceship Earth. A holistic discussion of the planet Earth's potentials and limitations. Debate of the interrelationships and interactions between exponential growth of population, industry, pollution and nuclear wastes, exponential depletion of natural resources and the possible future consequences of this growth. Geology majors are excluded. Writing intensive.

2. **Student Learning Objectives**
   a. The course objective is to enhance students' ability to discover their responsibility toward the planet Earth's system and to express their conclusions, ideas, hopes and visions in writing and speaking. The course content will demonstrate commonality of global issues, concerns, and challenges in a very diverse planet (i.e. climates, vegetation, landscape, resources, cultures). One of the most significant aspects of the Spaceship Earth Senior Seminar is the discovery by students of how human needs and challenges are common despite the students' diverse academic and non-academic backgrounds (i.e. race, gender, culture). By the time students have completed the course they will:

   - learn to recognize the responsibility they have toward the planet Earth's system (critical thinking, global citizenship)
   - have the opportunity to express their ideas, hopes and visions of their responsibility toward Earth's systems orally and in writing (critical thinking, writing, speaking)
   - learn the commonality of human needs and challenges despite diverse academic and non-academic background (critical thinking, citizenship)
   - complete two investigative papers - one involving all of the factors affecting population growth and the second involving the impact of uneven global distributions of natural resources on international relationships (writing, critical thinking, global citizenship)
   - write short essays about their own role in conservation and efficiency measures in using natural resources (writing, citizenship, critical thinking)
   - write essays and participate in class discussions on citizens' roles in democratic societies in deciding appropriate disposal sites for landfills and hazardous wastes (writing, speaking, critical thinking, citizenship)
   - manipulate the World's Model to arrive at a sustainable growth model compatible with the Earth's potentials (critical thinking)
   - give individual responses and participate in group discussions of relevant course topics (speaking, critical thinking)

3. **Course outline**

Week **Topic**

1 **Introduction**

a) Overview of the Earth: Two Journeys: Through Time and Space (a slide presentation comparing and contrasting planets in the Solar System and the evolution and extinction of species through time)
b) Nature of Geometric Growth and Its Implications

2-3 **The Parameters of Growth**

a) Resource Availability - The "Inputs" to Our Life System
b) Environmental Pollution - The "Outputs" from Our Life System

4-7 **The World Model**

a) Objective of the Model
b) Construction
c) The Behavior Modes--Tendencies of the Variables in the System (i.e., Population or Pollution) to Change as Time Progresses
d) The Feedback Loop Structure
Population Growth and Capital Growth Feedback Loops
Population, Capital, Agriculture, and Pollution Feedback Loops
Population, Capital, Services, and Resources Feedback Loops
e) Quantitative Assumption

MIDTERM TEST

8-11 **The Adjustment Mechanisms--How Well Will They Work?**

a) Technology as An Adjustment Mechanism
Energy and Resources
Pollution Control
Increased Food Yield
Technological Solutions and Their Side Effects
Problems with no Technological Solutions
b) Market Place Adjustment to Scarcity
Lessons from Energy Crisis
The Problem of Predicting Market Behavior
The Problem of Social Resistance
The Problem of Economic Justice and Market Place
The Problem of Time Lags and Market Place

12 **Assessment Activities**

13-15 **The Search for Adjustment Mechanisms**

a) Toward a Holistic View of Our Adjustment Mechanisms
b) The Time That Systems Require to Adjust to Change

The Choices Before Us

a) The Present Direction
b) Alternatives

FINAL TEST

4. **Evaluation of Student Learning**

a. Students' writing and critical thinking abilities will be determined by completion of two

comprehensive papers (2-4 pages) and short authentic (in class) essays. Critical thinking will be further evaluated by the students' ability to manipulate the present global relationships between growth of population, industry, depletion of non-renewable resources and pollution to arrive at a model compatible with Earth 's potentials (a finite system). Class discussions, informal presentations and authentic short essays will evaluate the students speaking skills and citizenship. The final course grade will be determined by the sum of four components for a total of 100% as follows:

Papers	**(40%)**
Midterm test	**(20%)**
Final test	**(20%)**
Discussions and short essays	**(20%)**

b. The course requires two papers, that will be graded by the instructor based on the organization (i.e. abstract, discussion, conclusion), reasoning and critical thinking ability of students to develop and defend their ideas. One of the papers will be returned to students for further revisions. The contents of these papers will be discussed with students in the class.

5. Rationale

a. Senior Seminar
b. Prerequisite: 75 hours completed.
c. This is a revision of EIU 4003C and should maintain the same curriculum i.d as EIU4101G.
d. Course will not be required in any major or program other than general education Senior Seminar .

6. Implementation

a. Initial Faculty: Alan Baharlou , other Geology/Geography Department Faculty
b. Texts:
   1. Managing Planet Earth: Readings from Scientific American
   2. Current relevant handouts
c. No additional cost
d. Spring 2001

7. Community College Transfer

Not applicable

8. Date approved by the Department: 2/18/2000

9. Date approved by the College of Sciences Curriculum Committee: 3/31/2000

10. Date approved by Senior Seminar Advisory Committee: 4/27/2000

11. Date approved by the CAA: 10/19/2000

Department contact person **Alan Baharlou**
Phone **217- 581-2626**