

FS 301. [The Human Overpopulation Crisis](#)

Why are humans in such a state of total denial about what we are doing to this planet?

People are becoming aware of some of the many consequences of overpopulation, but most still refuse to recognize the underlying causes: *an economic system based on perpetual growth* and *too many people*. Just as the pharmaceutical industry targets symptomatic relief for man-made ailments rather than addressing underlying root causes, widespread attention to the many spin offs from overpopulation diverts attention away from the real problems. This course examines the human crowding dilemma from a wide diversity of perspectives, primarily from a scientific point of view, but we will also briefly consider the impact of religious mythology. After first developing a thorough understanding of natural selection and population biology, we will critically evaluate the multitudinous side effects (symptoms) of overpopulation on Spaceship Earth (perhaps “Lifeboat” would be a better metaphor) and the destruction of our planet’s life support systems.

We will then ask what, if anything, can be done to mitigate the mess we have made. Finally, we will confront reality head on and examine possible future scenarios, including colonization of space, the collapse of civilization, and, ultimately, our return to a hunter-gatherer mode of existence.

Professor: [Eric R. Pianka](mailto:pianka@mail.utexas.edu) pianka@mail.utexas.edu

Office: Patterson 125 (471-7472)

Office Hours: Mondays and Fridays 1-2 PM (or by appointment)

Lectures: Spring 2008, Tuesday and Thursday, 8-930 AM, Patterson 141SL

Texts (both available in paperback):

Brown, L. 2005. Outgrowing the Earth. Norton.

Leopold, A. 1949. A Sand County Almanac. Oxford University Press.

Supplementary Texts (recommended):

Pianka, E. R. 2000. Evolutionary Ecology, 6th ed. Addison-Wesley Longman.

Morrison, R. 1999. The Spirit in the Gene. Norton.

Catton, W. R. 1982. Overshoot. The Ecological Basis of Revolutionary Change.
Univ. Illinois Press.

Douthwaite, R. 1999. The Growth Illusion. New Society Publishers.

Heinberg, R. 2003. The Party's Over. Oil, War and the Fate of Industrial Societies.
New Society Publishers.

Flannery, T. 2002. The Future Eaters. Grove Press.

Meadows, D., J. Randers, and D. Meadows. 2004. Limits to Growth. The 30-Year Update.
Chelsea Green Publishing Company.

Grades:

A knowledge of High School algebra and geometry is assumed. You will be expected to be able to understand 3-dimensional graphs and be able to interpret and manipulate simple

equations. You will be expected to learn basic ecology and evolution that everyone should know. You will also be encouraged to *think*. This class has a substantial writing component. You will write 3 papers, two personal private ones for yourself and me (one during the first two weeks and the other during the last two weeks). After thoroughly researching background material, you will write the third, a polished original synthetic essay on some aspect of the human population dilemma (list of possible topics posted on the course website at <http://www.zo.utexas.edu/courses/THOC/topics.html>). This one will be read and evaluated by the entire class. Your grade will be based on your attendance, performance in class discussions, exams, and your three papers.

Tentative Outline: The Human Overpopulation Crisis

Professor [Eric R. Pianka](#)

Creation Mythology ([Intelligent Design?](#))
[Scientific Methods and Human Knowledge](#)
[Basic Thermodynamics](#)

Fundamentals of Population Biology

[Natural Selection](#)

[Life History Theory](#)

[Optimal Reproductive Tactics](#)

[Population Growth and Regulation](#)

Earth's Life Support Systems ([EoE Link](#))

Gravity

Oxygen and Temperature

Food, Water, and Shelter

[Millennium Ecosystem Assessment](#)

Symptoms of Overpopulation ([EoE Link](#))

[Atmosphere, Climate](#)

[Air Pollution](#)

[Global Warming](#)

[Water, Ocean Fisheries](#)

[Land](#)

[Food](#)

[Energy](#)

[Economic Collapse](#)

[Vanishing Book of Life](#)

Solutions to Overpopulation

Famine

Plague

War

[Birth Control](#)

[Space Travel?](#)

Our Future

[When Civilization Collapses](#)

[Selection for Uncaring Humanoids](#)

[Return to the Hunter-Gatherer Mode](#)

[Packing Your Survival Kit](#)