I ABSTRACT

This course is designed to identify, examine the nature and evaluate the evidence regarding key population problems affecting modern societies. The course emphasizes the use of population models as a tool to frame, define and investigate these problems. Examples of problems studied include: relations between population growth and emergence of new diseases, population growth and environment, and population growth and socioeconomic development.

II COURSE CONTENT

The course begins with an introduction to the nature of population models. To be properly formulated these models must resolve three problems: (a) determine the boundaries of influence of biology and social and economic factors, (b) define basic concepts and specify their measurement and (c) articulate a representation of the mechanisms through which biology, social and economic factors determine population dynamics, e.g. changes in basic properties of a population and its environment. Ultimately, these models address the following question: how do individuals and their behavior affect population characteristics and vice versa? We discuss the fundamental properties of population models and, as an illustration, apply them to the study of pre-industrial and post-industrial population dynamics.

We start with a key question: what role, if any, does population dynamics play in the birth, development and eventual collapse of societies? We turn to an examination of the properties of the ‘population model’. We then introduce sequentially the following themes:

= the emergence of HIV/AIDS

= nature of new diseases; we evaluate the commonly made claim that these are events that result from population growth per se.

= relations between population growth and composition, economic growth, technological development and environmental degradation. Relations in pre-industrial and post-industrial periods; how does relation shifts over time.

= population, environment, climate change and the impact on global health;

= persistent, strong, universal health and mortality disparities by social groups everywhere in the world. Why? These disparities continue to be with us despite large increases in wealth, great technological advances, and massive changes in the financing of public health systems. We pose
a potentially remarkable possibility, namely, that such disparities are reproduced across generations. We identify the mechanisms that make this possible.

Is population aging dangerous? Determinants and consequences of population aging in the US, other developed countries and the developing world.

Trends in inequality: why do they persist? Why do health and mortality disparities continue to exist in virtually all societies independently of country wealth and health systems?

III COURSE REQUIREMENTS

There will be an in-class midterm that will take place during the first week of November. The midterm will consist of a set of questions requiring very short answers. This midterm will count for 50% of your final grade. There will be a take-home final which will count for 50% of your final grade. The take-home final will be an expanded version of the midterm.

To familiarize you with the style of midterm and final I will distribute 3 to 4 take-home tests that will not be graded. In addition, these will be useful for you to judge your understanding of materials.

Each week I will use half of Wednesday’s class to review and discuss readings. So, please do me a favor: be prepared and read the materials assigned for each week. In some sections I will have special lectures devoted to a single theme and usually based on special readings (including newspaper and magazine articles, TV news reports etc…) which I will identify a week in advance. These are not required readings.

IV COURSE ALERT

I will be away on Wednesday September 2nd and October 7th. I will propose alternative dates to recoup these classes (you will get free cookies, pizza, soft drinks and coffee if you attend these lectures).

V. REQUIRED READINGS

You should purchase one text book: Joel E. Cohen. 1995. How many People Can the Earth Support? New York: Norton and Company. This text will be available by the middle of September. It will also be on reserve in the Social Science Reference Library (SSRL) located on the eight floor of the Social Science Bldg [Readings from this book are identified as {Required Text} in the syllabus]. Other readings are either physically on the SSRL reserve shelves [these are identified as {Library Reserve} in the syllabus] or will be uploaded in the SSRL web site [these are identified as SSRL in the syllabus]. A star (*) preceding a reading item indicates this is optional. All other readings are required.

All my class notes will be posted on the SSRL web site. These are mostly (but not solely) power point presentations an should help you keep track of the material.
VII. COURSE CONTENT AND READINGS

A. An introduction: why do societies collapse? (Week 1)
=The collapse of societies: what’s the role of population?


2. Cohen Chapter 16 {Required Text}

B. The population model (1): Population and biology: what are the relations? (Weeks 1 and 2)
=Population and biology: reproduction, health and migration
=Biological foundation of behavior
=Evolutionary view of population dynamics
=Some examples of interplay with biology: fertility, longevity, intergenerational transfers


***A special session on the relations between social sciences and biology with examples from various areas including reproduction, aging, and social inequalities***

C. The population model: rates, structures, and population dynamics (Weeks 3 and 4)

=Rates and the their determinants
Population distributions: by age, by sex, by geographic location
How rates determine distributions

1. Class notes: on the measurement of demographic entities {SSRL}


D. HIV/AIDS: a disaster waiting to happen? (Week 5)


E. Machupo, Ebola and other hemorrhagic fevers: where do they come from? (Week 6)

=Plagues and people: something old and something new
=Population growth and plagues
=How does the future look like?


12. Institute of Medicine, 1992. *Emerging Infections: Microbial Threats to Health in the United States* Executive Summary and Chapter 1 (pp 1-15 and 16-33) {SSLR}

*F. Demographic regimes: homeostatic balance, population explosion, and extinction (weeks 7 and 8)*

= The Malthusian model: was Malthus right?
= Turning Malthusian theory on its head
= Population dynamics: with and without Malthusian constraints


2. Coale, A.J. "The history of the human population" *Scientific American*, Special Issue on the Human Population{SSRL}

5. Cohen: Chapters 2, 3, 4, 6, 11 and 13 {Required Text}


9. P. Demeny, 1986. 'Population and the invisible hand' Demography, 23(4) {SSRL}


***Special session on a simulation model to show the role of deterministic population regimes and contrast them with purely stochastic population regimes***

G. Population growth, climate change and the future of life on earth (week 9)


2. Cohen, chapters 7, 8, 9, 14, 15 16 {Required Text}


6. N. Keyfitz, "Population and development within the ecosphere: one view of the literature," *Population Index* 57:5-22 {SSRL}


**H. Aging around the world (weeks 10 and 11)**


5. B.S. Singer and K. Manton, 1994. "What’s the fuss about the compression morbidity?" *Chance*, Fall 1994 {SSRL}


**III Special session on health care reform and social security in the US**

**I. The reproduction of inequalities and health disparities (weeks 12, 13 and 14)**


***Special session on class disparities and intergenerational transmission of opportunities***