

## SEMESTER AT SEA COURSE SYLLABUS

**Discipline: Geogrpahy**

**Fall 2008**

**SEMS 480-1, SEMS 480-2: History of the Relationship between Population and Food Supply  
(2 sections)**

**Upper Division**

**Faculty Name: Martha Works**

**Suggested Pre-requisites:** Upper-division standing. Introductory level courses in World History, Geography, or International Studies helpful, but not required.

### **COURSE DESCRIPTION**

This class is an historical overview of the relationship between population growth and our ability to produce food. After an introduction to population dynamics we examine the history of population growth and of scientific and technological changes that have allowed food production to keep pace. Growth in both population and food production has come at a high environmental cost and we will look at the environmental impacts on water resources, soil erosion, biodiversity, and global climate that can be traced to agricultural intensification. We will also consider causes of dramatic population increases after 1950, the significant changes to agriculture represented by the Green Revolution and genetic modification, and how of global trade and food aid affect our current ability to keep up with global demand for food. Case studies of the conflict between conservation and agriculture in the Atlantic Rain Forest (Brazil), tropical export-oriented agriculture (Malaysia), rice cultivation in the Mekong Delta, and the challenges faced by India and China as they meet the food needs of over 2 billion people provide opportunity for field study and research into how humans have transformed landscapes in an effort to meet their basic need for food, and the role of population growth and agricultural development in global environmental change.

### **COURSE OBJECTIVES**

At the end of this course, the student will be able to:

1. analyze historic processes and patterns of population growth with respect to social, economic, and technological factors that lead to population increase and decline
2. evaluate how technological adaptations and change have affected our ability to produce food
3. critique systems of food production and distribution with regard to their environmental and social impacts
4. understand the factors that have contributed to world hunger historically and which contribute to world hunger at present.
5. critique the theories used to explain the relationship between population growth and food supply
6. reflect on the ability of the regions we visit to feed their populations within the context of their  
1) physical environments; 2) economic and political situations; and 3) population dynamics.

## TOPICAL OUTLINE OF COURSE

Prior to arriving at each port we will have a discussion of the region and the regional context for population and food supply as well as discussion of the options for field work at each site. (See section on field work options).

1. Introduction to class and to basic frameworks for understanding issues related to world population and food supply; theories of population growth.
2. Understanding population dynamics with examples from Latin America (focus on Brazil)  
**Read:** Chapters 2 & 3, Newbold (“Fertility and State Policy”, “The (un)Certainly of Death and Disease”); and Introduction, Evans (“Timebomb or Threadmill?”)
3. Case study, Bahia, Brazil: sugarcane, cacao, and biofuels: migration, population growth, conservation, and commercial agriculture in the Mata Atlantica. [*Prepare for field trips in and around Salvador, Brazil.*]  
**Read:** *New Yorker* article, “Extreme Chocolate”; Chapter 3 (Sugar, Spice, and Blood) in Pilcher
4. The agricultural revolution: early agriculture, crop domestication and the first population boom  
**Read:** Evans, Chapter 3 (“Towards fifty million [8000 BC-2000 BC]”)
5. Crop diffusion, agricultural innovation and historical changes in traditional agriculture  
**Read:** Evans, Chapter 4 (“The first half-billion [2000 BC-1500 AD]”); Intro & Chapters 1 & 2 in Pilcher (“Intro: Ingredients of change,” “The first world cuisine”, “The Columbian Exchange”)
6. Focus on Africa I: critical issues -- migration, population distribution & change, impact of AIDS and public/environmental health on population dynamics. [*Prepare for field trips in and around Walvis Bay, Namibia*]  
**Read:** Newbold, Chapter 4 (“The Impact of HIV and AIDS”)
7. Focus on Africa II: food production and food supply: biophysical and socio-economic constraints. [*Prepare for field trips in and around Capetown, South Africa.*]  
**Read:** Stock (reserve), Chapters 10 & 11, (Rural Economies: “Indigenous Food Production Systems,” “Agrarian Development and Change”)
8. Towards the first billion: agriculture and population growth to 1825  
**Read:** Evans, Chapter 5 (“Towards the first billion (1500-1825); Pilcher, Chapters 4 & 5, (“Nouvelle cuisines,” “Moral and political economies”)
9. The impact of scientific understanding on food production: towards the second billion (to 1925)  
**Read:** Evans, Chapter 6 (“The second billion, 1925-1927); Pilcher, Intro Part II, Chapters 6 & 7, “A taste of modernity,” “The industrial kitchen,” “Cuisine and nation building”)
10. The industrialization of agriculture and the third billion (to 1960)  
**Read:** Evans, Chapter 7 (“The third billion”);

11. The Green Revolution and post-WWII economic development: the population ‘bomb’ (to 1975)  
**Read:** Evans, Chapter 8 (“The fourth billion”)
12. The case of India: population dynamics and food production. [*Prepare for field trips in and around Chennai, Tamil Nadu.*]  
**Read:** Conway (reserve reading) Chapters 4 & 5 (“Past successes,” “Food production and the poor”)
13. Focus on Southeast Asia: population, migration, and agriculture: resettlement projects in Southeast Asia. [*Prepare for field trips in and around Penang, Malaysia*]  
**Read:** Case Study on the Malaysian Palm Oil (electronic reserve); Newbold, Chapter 5 (“Refugees, Asylees, and Internally Displaced Persons: The Growing Crisis”)
14. Focus on Asia: rice production and population distribution  
**Read:** Pilcher, Chapters 8 & 9 (“Empires of food,” “Migrant cuisines”); Evans, Chapter 9 (“The fifth billion [1975-1986]”)
15. The Mekong Delta [*Prepare for field trips in and around Ho Chi Minh, Vietnam*]  
**Read:** Pilcher, Intro part III and Chapters 10 & 11 (“The global palate,” “Guns and butter,” “The Green Revolution”); Evans, Chapter 10, (“The sixth billion [1986-1999]”)
16. Population policies, population distribution, and food production in China [*Prepare for field trips in and around Hong Kong and Shanghai*]  
**Read:** Pilcher, Chapters 12 & 13 & Conclusion (“McDonaldization and its discontents,” “Culinary pluralism”); Manning (on reserve), “The fate of farming in an industrializing world – Nanjing” and “Bioengineering on the loose—Shanghai”
17. Japan’s population dilemma; food production and consumption in a post-industrial economy [*Prepare for field trips in and around Kobe, Tokyo-Yokohama, Japan*]  
**Read:** Evans, Chapter 11 (“What the world eats now”)
18. Feeding 6 billion people: The role of genetically-engineered foods  
**Read:** Conway (reserve), Chapter 8 (“Designer Plants and Animals”)
19. The roles of food aid and food trade  
**Read:** Conway (reserve), Chapter 15 (“Achieving Food Security”)
20. Environmental impacts of food production  
**Read:** Newbold, Chapter 6 (“Population, Economic Growth, Resources, and the Environment”)
21. Environmental impacts of population growth [*prepare for field trips in and around Honolulu, Hawaii*]  
**Read:** Newbold, Chapter 7 & Conclusion (“The Potential for Conflict,” and “Five Demographic Forces That Will Shape the World”)
22. Population projections, feeding the 10 billion  
**Read:** Evans, Chapter 12 (“Feeding the ten billion”)

## 23. The future of food supply

**Assignments:** Case study: Analyze the prospects for population change and future food supply in one of the countries we visit. Include statistics on total population, map of population distribution, population growth rate, immigration, infant mortality, leading cause of death, and other population statistics you can find for the country. For the agriculture part include information on types of agriculture, types of crops growth in country, imports, exports, map of agricultural production, etc. Material on reserve and electronic reserve will be available for this assignment. Include 4-5 references. Assignment should include about one page of population information (narrative, not a chart), one page of agricultural information including major crops, % of food imported and exported, food distribution institutions and infrastructure (narrative, not a chart) and 3-4 page narrative (about 1000 words) summarizing population and food supply characteristics of the country. Your narrative should include an overview and reflection (based on your observations in the country) of population and agricultural characteristics, and discussion of long term prospects for population growth and food supply for the country.

Field notes from a minimum of 3 field excursions either one of the following Faculty Directed Practica or an independent project you clear with me:

- 1) Agricultural production in Bahia: from slave plantations to biofuels: (sugarcane, cacao and castor beans) (2 days)
- 2) Women's health clinic and agricultural experiment station near Chennai (1 day)
- 3) Planned agricultural settlements, agricultural development and commercial agriculture in Jengka Triangle/Pahang, Malaysia (2 days)
- 4) Rice cultivation in Mekong Delta (1 day)
- 5) Tsukiji Market/Tokyo Metropolitan Central Wholesale Market (1/2 day)

## FIELD COMPONENT

Each student is required to complete THREE practica (either Faculty Directed or Independent) and a final assignment based, in part, on field work. You are required to participate in at least one of the FDPs under my direction (in Walvis Bay or Malaysia), since the methods of observation in these FDPs are central to the material covered in this class. The other practica can be an Independent Practicum developed as part of a regularly-offered SAS trip, or it may stand alone. If an Independent Practicum is selected, then the student must meet with me prior to arriving in the port-of-call to discuss his or her approach and objectives. Each student will keep a field notebook in which to record field observations from at least 3 practica and in which you will keep field notes for your final assignment for the class. Your journal should include field maps and sketches, photographs and other illustrations, as well as your notes from the field.

There are three components of the field requirements for this class, all to be recorded in a field book you keep for this class:

- 1) 3 required practica;
- 2) General observations you make during your time in the various countries we visit and;
- 3) Detailed and specific observations about the relationship between population and food in one of the countries we visit to comprise part of your final paper.

In addition to field observations about food and agriculture taken in the 3 required practica, and in general travels during the voyage, students will record detailed observations about food production and consumption, and about observable characteristics of populations (such as: age, health status, housing, crowding, income, equality, gender status) in one of the countries we visit, which will then form part of their final project. General observations can include reflections and commentary on what is available to eat in various countries, how it differs from place to place, kinds of food available in markets and restaurants, and observations about agriculture and import/export commodities where relevant and possible. The more detailed entry should include maps, photographs, field notes and field maps, printed material, and sketches and observations for the final project (of population and agricultural characteristics, and long term prospects for population growth and food supply for the country). These should inform your country report and provide background for cross-country comparisons of food supply and population issues that we will discuss in class. We will talk more in class about how to make field entries and how to use field notes as a source of primary data in research. I will collect your field notebooks at regular intervals during the term and we will share observations and methods of collecting field data as part of class discussion. Your final project should include at least five “notes from the field” – photographs, field maps and/or sketches, and your observations.

You may satisfy the practica requirement by participating in 3 of the following (including at least one of my FDPs) and making observations about population characteristics, and food production (agriculture) and distribution (marketing):

**SUGGESTED PRACTICA:**

- BRAZIL: Cachoiera; Service Project: Calabar Favela
- NAMIBIA: Food Supply and Distribution in an Extreme Environment (FDP)
- SOUTH AFRICA: Operation Hunger
- INDIA: Socio-economic Problems in Chennai; Farm Visit; Village Homestay
- MALAYSIA: Prime Commodities: Rubber, Palm Oil and Rice and/or Tropical Fruit Orchard and Spice Estate; Ethnic Communities in Malaysia; Kampung Mengkuang Titi
- VIET NAM: Mekong Delta Day Trip; Mekong Delta Overnight
- CHINA: Family Planning Neighborhood Committee (Shanghai)

**METHODS OF EVALUATION**

4 quizzes at 25 points each	20%
Final exam	20%
Field book	20%
In-class exercises/labs & field reflection papers	20%
Country report/project	20%
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	100%

[90-100% - A; 80-89% - B; 70-79 % - C; 60-69% - D; <60% - F]

## REQUIRED TEXTBOOKS

**AUTHOR:** Evans, L. T.  
**TITLE:** *Feeding the Ten Billion: Plants and Population Growth.*  
**PUBLISHER:** Cambridge University Press: Cambridge.  
**ISBN #:** 0 521 64685 5  
**DATE/EDITION:** 2001.  
**COST:** \$29.99

**AUTHOR:** Pilcher, Jeffrey  
**TITLE:** *Food in World History.*  
**PUBLISHER:** Routledge: New York.  
**ISBN #:** 0 415 31146 2  
**DATE/EDITION:** 2006.  
**COST:** \$26.95

**AUTHOR:** Newbold, K. Bruce  
**TITLE:** *Six Billion Plus: World Population in the Twenty-First Century.*  
**PUBLISHER:** Rowman and Littlefield: Lanham.  
**ISBN #:** 978 0 7425 3929 7  
**DATE/EDITION:** 2007/2nd  
**COST:** \$28.95

## RESERVE LIBRARY LIST

You may suggest a maximum of four books per course for the Reserve Collection. Our librarian will consult the library collection to see if we already have these books.

If we do not have the books, the librarian will purchase them for the permanent collection.

If you are listing more than four books, please indicate those books to which you place top priority, and the librarian will do her best to acquire those. If those you indicate are not available, she will try to acquire additional books that are on your list.

You may also bring books and materials from your own collection to be placed on Reserve.

**AUTHOR:** Manning, Richard  
**TITLE:** *Food's Frontier: The Next Green Revolution*  
**PUBLISHER:** University of California Press  
**ISBN #:** 0 520 23263 1  
**DATE/EDITION:** 2000  
**COST:** \$16.95

**AUTHOR:** Conway, Gordon  
**TITLE:** *The Doubly Green Revolution: Food for all in the 21<sup>st</sup> Century*  
**PUBLISHER:** Cornell University Press  
**ISBN #:** 0 8014 8610 6  
**DATE/EDITION:** 1997  
**COST:** \$22.95

**AUTHOR:** vanWyk, Ben-Erik  
**TITLE:** *Food Plants of the World: An Illustrated Guide*  
**PUBLISHER:** Timber Press  
**ISBN #:** 978 0 88192 743 6  
**DATE/EDITION:** 2005  
**COST:** \$39.95

**AUTHOR:** Stock, Robert  
**TITLE:** *Africa South of the Sahara*  
**PUBLISHER:** Guilford  
**ISBN #:** 0 89862 406 1  
**DATE/EDITION:** 2004/2nd  
**COST:** \$64.00  
**ELECTRONIC COURSE MATERIALS**

**AUTHOR:** Simeh, Arif and Ahmad Tengku.  
**ARTICLE/CHAPTER TITLE:** The Case Study on the Malaysian Palm Oil.  
**JOURNAL/BOOK TITLE:** Regional Workshop on Commodity Export Diversification and Poverty Reduction in South and South-East Asia. UNCTAD  
**VOLUME:**  
**DATE:** 2001  
**PAGES:** web page: <http://www.unctad.org/infocomm/Diversification/bangkok/palmoil.pdf>

**AUTHOR:** Buford, Bill  
**ARTICLE/CHAPTER TITLE:** Notes of a Gastronomer: Extreme Chocolate: The quest for the perfect bean  
**JOURNAL/BOOK TITLE:** *The New Yorker*  
**VOLUME:**  
**DATE/EDITION:** October 29, 2007  
**PAGES:** 68-79

**AUTHOR:** Population Reference Bureau  
**ARTICLE/CHAPTER TITLE:** 2007 World Population Data Sheet  
**JOURNAL/BOOK TITLE:**  
**VOLUME:**  
**DATE:** 2007  
**PAGES:** web page: [http://www.prb.org/pdf07/07WPDS\\_Eng.pdf](http://www.prb.org/pdf07/07WPDS_Eng.pdf)

**AUTHOR:** Population Reference Bureau.

**ARTICLE/CHAPTER TITLE:** Highlights from the 2007 World Population Data Sheet.

**JOURNAL/BOOK TITLE:**

**VOLUME:**

**DATE:**

**PAGES:** web page: <http://www.prb.org/pdf07/62.3Highlights.pdf>

**AUTHOR:** Population Reference Bureau.

**ARTICLE/CHAPTER TITLE:** Population: A Lively Introduction

**JOURNAL/BOOK TITLE:**

**VOLUME:**

**DATE:**

**PAGES:** web page: <http://www.prb.org/Source/58.4PopulationLivelyIntro.pdf>