

**AGRI 270 / IE 270**  
**WORLD INTERDEPENDENCE:**  
**POPULATION AND FOOD**  
**Spring 2014**

**General:**

3 Credits, Traditional Grading Only, No Prerequisites  
MWF 11:00-11:50 a.m., Room A205 Clark Building

**Instructor:**

Dr Gregory Graff  
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**Office hours:** Thursday 2:00-4:00 PM

**Teaching Assistant:**

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**Office hours:** Tuesday 11:00 AM -12:00 NOON

**Course Objectives:**

1. *To understand the patterns and causes of change in human population and food production and consumption throughout the world community of nations.*
2. *To understand world economic interdependence and how it shapes population and food issues.*
3. *To understand cultural pluralism in the world and appreciate the problems and opportunities created by a world community of nations.*
4. *To understand the physical, scientific principles underlying food production and strategies for improving the world food supply.*
5. *To provide learning experiences to improve skills in reading, literature search, critical thinking, and writing.*
6. *To provide an opportunity to learn about the local economic and food situation through service learning at a community food service such as the Food Bank of Larimer Country.*

**Organization and Requirements:**

**1. Grading**

Attendance	5%
Quizzes: 6 @ 2.5% each	15%
Exam I (midterm, in class)	15%
Exam II (during finals week)	25%
Four Short Assignments	20%
Term Paper <i>or</i> Service Learning project	<u>20%</u>
<b>Total</b>	<b>100%</b>

**2. Attendance:** It is important that you attend regularly because most topics will be covered in a single session, discussion will be important to understanding, and there will be no opportunity for review in succeeding classes.

Guest speakers may not provide handout summaries of their remarks. Media and case study presentations will be a rich source of knowledge and perspective building, and contents of these classroom experiences will also be included in quizzes and exams. **Attendance will be taken occasionally in order to assess participation.**

**3. Readings:** There is no text for this course. Assigned readings can be found on the course's RamCT site. Contents of all assigned reading will be included in quizzes and on exams. Students will choose four of the academic readings to which they will respond in the four Response Papers writing assignments (see below.)

**4. Quizzes:** On Fridays there will be a brief in-class quiz of about 10 questions; the purposes of the quizzes are to introduce you to the types of questions you will see on exams and to encourage you to keep current on class notes and readings.

**5. Examinations:** There are two exams, a midterm and a final. The midterm consists of approximately 40 questions and the final consists of approximately 60 questions. Questions are multiple-choice and relate to *lectures, readings, guest speaker presentations, films, and case studies*. There will not be an opportunity to make-up the midterm; if the midterm is missed due to an acceptable excuse, then the final will count for the full exam portion of the grade (i.e. 40 percent).

**6. Writing Assignments:** All writing for this course is done in individual assignments, not group assignments.

**a. Response Papers:** Each student is assigned four (4) one page, typed, response papers, each based on one of the primary peer-reviewed scholarly article readings, reports, or case studies of your choice, those marked with a (p) or a (c), *not* the assigned news articles or case studies, those marked with an (n). One response paper is due at the end of each four-week period on Friday at 5:00 PM (noted in the schedule). Details of the response paper assignment will be covered in the *College Writing Workshop*. The objective of the response paper is to respond critically to one of the readings assigned during the prior four weeks.

All four response papers will initially be graded Satisfactory/Unsatisfactory as to whether they meet the criteria for the assignment and are on time. This will account for a portion of the reaction papers grade (equal to 12% of course grade). The entire class will receive general feedback about the response papers, and individual feedback will be available in office hours upon request. In the final week of class, you will choose one of your four Response Papers to revise and resubmit for grading. That paper will be graded in detail and will constitute the rest of the course grade allocated to the reaction papers (equal to 8% of course grade). The response paper assignments make up a total of 20% of the course grade.

**b. Term Paper:** Please see Term Paper assignment sheet for details. Deadlines for the term paper are:

- **College Writing Workshop:** In class on the second Friday of the semester. Workshop attendance required for all students.
- **Term paper topic:** Due second Monday in March.
- **Annotated references:** Due last Friday in March.
- **TERM PAPER DUE** in the Peer Review Workshop held in class on last Friday in April. Workshop attendance is required for all students submitting term paper; those doing Service Learning option are excused.
- **Final revised draft of term paper:** Due in class on the second-to-last Friday of the semester. Submit in hard copy in the following order: (1) final revised version on top, (2) peer review worksheet from the Peer Review Workshop in between, and (3) previous version that was submitted and reviewed at the Peer Review Workshop on the bottom, all three stapled together.

**c. Service Learning Option:** The service learning opportunity will be explained during the first week of class. Those who decide to take advantage of this opportunity will be required to establish an agreement with the designated volunteer coordinator or liaison person at an approved local food assistance program (including food banks, food pantries, soup kitchens, or shelters) and inform Professor Graff about your commitment to that organization.

If you are interested in volunteering at another organization, that is great, but you will need to get prior approval from Prof. Graff before you make your volunteer commitment. Credit cannot be given for unapproved volunteer work.

Pre-approved volunteer programs include the *food assistance programs* of the following organizations:

**The Food Bank of Larimer County** (<http://www.foodbanklarimer.org/TakeAction/Volunteer.aspx>)  
**Weld Food Bank (in Greeley)** (<http://www.weldfoodbank.org/GetInvolved/Volunteer.aspx>)  
**Catholic Charities of Northern Colorado, Mission Shelter**  
(<http://www.ccdener.org/index.php/the-mission-larimer-cty>)  
**Salvation Army, Food Box Program** (<http://salvationarmyfortcollins.org/social-services/food-help>)  
**Fort Collins Rescue Mission** (<https://www.fortcollinsrescuemission.org/volunteer-to-serve>)  
**Harvest Farm** (<http://www.harvestfarm.net/volunteer/index.php>)  
**The Growing Project** (<http://www.thegrowingproject.org/>)  
**FoCo Café** (<http://fococafe.org/>)

**Students who elect this activity will not write the term paper.** The following requirements must be met instead:

- **Written commitment:** Due on Friday of the second week of class, please provide me with a written indication of the commitment you are making to a volunteer program, detailing the position or activity (two sentences), planned schedule, and contact individual at the organization, and their contact information (phone and email)
- **Regular participation for *at least one hour each week, for 14 weeks:*** Beginning no later than the third week of the semester, participation must continue through the last week of regular classes. If the participant misses the agreed schedule twice, the service learning experience will not be counted for credit.
- **Service learning report:** In lieu of the term paper, a two-page, thoughtful report of what was done, what was learned, and how it relates to this class will be due and you may have a chance to make a short oral presentation to the class during the last week about your service learning. The report should be written to explain your volunteer experience to your fellow students.

Students are encouraged to bring the service learning experience to the classroom through comments and questions during class.

**d. Late Assignment Penalties:** Papers submitted late will receive a *10 percent penalty per day late* (1 day late= -10%, 2 days late= -20%, etc). Papers submitted more than one week late will not be graded and a score of zero will be recorded.

**e. Cheating and Plagiarism:** Cheating on examinations and plagiarism in papers are not acceptable and will result in no credit for the examination or assignment. When plagiarism is suspected, papers may be checked with one of several internet plagiarism detection programs.

### Class Schedule: Spring 2013

Day Date		Topic	Assigned readings	Assignments
Wed 1/22	lecture	Course introduction and orientation		
<b>PART 1. THE PROBLEM: population growth and food security</b>				
Fri 1/24	film	"Six Billion and Beyond"	1. "The 9 billion-people question: special report on feeding the world" <i>The Economist</i> , Feb 26, 2011: read <ul style="list-style-type: none"> <li>• "The 9 billion-people question", pages 3-5</li> <li>• "How much is enough?" pages 5-8.</li> </ul> 2. "Colorado's growing population: impacts and prospects" <i>North Forty News</i> , April 2011, pg. 3.	
Mon 1/27	lecture	Global food security: Part I	1. Thomas Malthus, Chapter II "The different ratios in which population and food increase," from <i>An Essay on the Principle of Population</i> , London: J. Johnson in St Paul's Church Yard (1798).	
Wed 1/29	Lecture	Global food security: Part II	1. Walter P. Falcon and Rosamond L. Naylor, "Rethinking Food Security for the Twenty-First Century," (2005) <i>American Journal of Agricultural Economics</i> 87(5): pages 1113-1127.	
Fri 1/31	work shop	College Writing Workshop; includes introduction to all writing assignments	Attendance required for all students. We will be discussing writing resources at CSU as well as all writing assignments: the response papers, the term papers, and the service learning reports.	QUIZ 1; SERVICE LEARNING COMMITMENTS DUE (if choosing this option)
Mon 2/3	film	"A Place at the Table"		
Wed 2/5	Guest lecture	<b>Prof. Andy Seidl</b> "Scarcity and allocation: the view of Economics"	1. Adam Smith, Chapter I "Of the Division of Labor" 2. Adam Smith, Chapter III "Of the Principle which gives Occasion to the Division of Labor" both from <i>The Wealth of Nations</i> , London: Methuen & Co., (1776).	
Fri 2/7	Guest lecture	<b>Amy Pezzani</b> , Executive Director, Food Bank for Larimer County "Food security in America"	1. Alisha Coleman-Jensen, Mark Nord, Anita Singh "Household Food Security in the United States in 2012" USDA Economic Research Report No. (ERR-155), September 2013: read <ul style="list-style-type: none"> <li>• "Summary" on pages v-vi</li> <li>• "Household Food Security" pages 2-21 (look for how residents of CO are doing)</li> </ul> 2. <i>Map the Meal Gap: Food Insecurity in your County</i> . <a href="http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx">http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx</a> On this interactive web page, investigate food security in Larimer County or in your home county. Also, can find the worst county in the U.S. in terms of food security? Which is it?	RESPONSE PAPER 1 DUE

Mon 2/10	lecture	The promises and challenges of economic development	1. D. Gale Johnson, "Agriculture and the Wealth of Nations," (1997) <i>American Economic Review</i> 87(2): pages 1-12. 2. <i>The Millennium Development Goals Report 2012</i> : read the Overview, pages 4-5 and the second half of Goal 1 on reducing extreme hunger, pages 11-14.	
<b>PART 2. THE DEMAND SIDE: so many mouths to feed</b>				
Wed 2/12	lecture	Introduction to Demographics	1. Joseph A. McFalls Jr., <i>Population: a Lively Introduction</i> , 4 <sup>th</sup> Edition, Population Reference Bureau (2003), pages 1-19.	
Fri 2/14	film	"The Population Paradox"	<i>no reading assigned for today</i>	QUIZ 2
Mon 2/17	lecture	Social change and population change	1. Joseph A. McFalls Jr., <i>Population: a Lively Introduction</i> , 4 <sup>th</sup> Edition, Population Reference Bureau (2003), pages 19-37.	
Wed 2/19	lecture	Urbanization and migration	1. Read "Key Findings of the 2011 Revision" (pages 1-12), <i>World Urbanization Prospects: The 2011 Revision</i> , United Nations Department of Economic and Social Affairs/Population Division (2012)	
Fri 2/21	case studies	<i>Migration and transition</i>	1. Case 5-3 "Migration in Rural Burkina Faso," Fleur Wouterse: read exec summary 2. Case 3-9 "The Nutrition Transition and Obesity in China," Fuzhi Cheng: read exec summary	QUIZ 3
Mon 2/24	lecture	Human nutritional requirements	1. Dietary Guidelines for Americans, CSU Extension Factsheet 2. Priya Shetty, "The challenges of improving nutrition: facts and figures" <i>SciDev</i> , (2010) 3. "The 9 billion-people question: special report on feeding the world" <i>The Economist</i> , Feb 26, 2011: read "Not just calories", page 15.	
Wed 2/26	Guest lecture	Keith Schneller, Director Agricultural Trade Office for USDA in Shanghai, China	<i>no reading assigned for today</i>	
Fri 2/28	case study & film	"Sowing Seeds of Hunger"	1. Case 3-1 "HIV/AIDS, Gender, and Food Security in Sub-Saharan Africa," Anandita Philipose	RESPONSE PAPER 2 DUE
Mon 3/3	lecture	Food vs. biofuels	1. Hill, J., et al. "Environmental, economic, and energetic costs and benefits of biodiesel and ethanol biofuels," <i>Proceedings of the National Academy of Sciences</i> , 103, (2006), pages 11206-10. 2. Nature News series on advanced biofuels (each is just a page or so): <ul style="list-style-type: none"> <li>• "Wonder weed plans fail to flourish" <i>Nature</i>, 17 September 2009, pages 328-29.</li> <li>• "Gold rush for algae" <i>Nature</i>, 24 September 2009, pages 460-61.</li> <li>• "Cellulosic ethanol hits roadblocks" <i>Nature</i>, 1 October 2009, pages 582-83.</li> <li>• "From plants to power" <i>Nature</i>, 8 October 2009, pages 710-11.</li> </ul>	
Wed	Summary			

3/5	and review			
Fri 3/7	exam	MIDTERM EXAM given in class		EXAM I
<b>PART 3. THE SUPPLY SIDE: what it takes to produce enough food</b>				
Mon 3/10	lecture	Farming systems	1. John Dixon, Aidan Gulliver, David Gibbon, <i>Farming Systems and Poverty</i> , FAO, (2001); read: <ul style="list-style-type: none"> <li>• "1. Introduction" (pages 1-7).</li> <li>• "2. Sub-Saharan Africa" (pages 8-10), and</li> <li>• "8. Global Challenges, Potentials, and Priorities" (read just pages 28-30).</li> </ul>	TERM PAPER TOPIC DUE
Wed 3/12	lecture	Origins of Agriculture	1. "The Wild and the Sown" chapter from Fedoroff and Brown, <i>Mendel in the Kitchen</i> , (2004): pages 23-45.	
Fri 3/14	film	"History's Harvest"	no reading assigned for today	RESPONSE PAPER 3 DUE
Mon 3/17 - Fri 3/21	<b>SPRING BREAK</b>			
Mon 3/24	lecture	Crops we depend upon I: Grains and legumes	1. Levetin & McMahon, Chapter 12: "The Grasses" 2. Levetin & McMahon, Chapter 13: "Legumes"	
Wed 3/26	Guest lecture	Crops we depend upon II: Horticultural crops	1. Dever, "Small-Farm Access to High-Value Horticultural Markets in Kenya" Case 6-5, Food Policy for Developing Countries, 2007: read	
Fri 3/28	film	"Land of Plenty; Land of Want"	no reading assigned for today	QUIZ 4; TERM PAPER ANNOTATED REFERENCES DUE
Mon 3/31	lecture	Animals we depend on: Livestock & fisheries	1. Steinfeld et al, section 7.1, "Livestock and Environment in Context," from <i>Livestock's Long Shadow</i> , FAO, (2006): read pages 268-275. 2. Chapter 4 "Contribution to Food Security" from <i>State of World Aquaculture</i> , Fisheries Technical Paper No. 500, FAO, (2006): read pages 39-52.	
Wed 4/2	lecture	Resources we depend on I: Soil resources	1. M.A. Stocking, "Tropical Soils and Food Security: The Next 50 Years," <i>Science</i> , 302: 21 Nov (2003): read pages 1356-1359. 2. Gilbert, "The Disappearing Nutrient" <i>Nature</i> , Oct 2009: read pages 716-718.	
Fri 4/4	case studies	Soil fertility	1. Case 8-1 "Civil Society Strategy to Fight Soil Degradation in Peru": read exec summary 2. Case 8-2 "Incentives for Soil Conservation in Peru": read exec summary	QUIZ 5
Mon 4/7	lecture	Resources we depend on II: Water resources	1. Sandra Postel, "Entering an era of water scarcity: The challenges ahead," <i>Ecological Applications</i> , 10 (2000): read pages 941-948.	

Wed 4/9	lecture	Climate change and agricultural productivity	1. Mason Inman, "Hot, Flat, Crowded: And Preparing for the Worst" <i>Science</i> , Oct 2009: read pages 662-663. 2. Morton, J.F. 2007. "The impact of climate change on smallholder and subsistence agriculture" <i>Proceedings of the National Academy of Sciences</i> , 104: read pages 19680-85.	
Fri 4/11	case studies	<i>Irrigation</i>	1. Case 7-5 "Managing Drought Risks in the Low-Rainfall Areas of the Middle East and North Africa," Peter Hazell: read exec summary 2. Case 8-4 "Allocating Irrigation Water in Egypt," Birgitte Gersfelt: read exec summary	RESPONSE PAPER 4 DUE
Mon 4/14	lecture	Agricultural genetics I: Plant breeding & the Green Revolution	1. Peter B.R. Hazell, "The Green Revolution: Curse or Blessing?" IFPRI Brief, International Food Policy Research Institute (IFPRI), (2002): read pages 1-4.	
Wed 4/16	lecture	Agricultural genetics II: Biotechnology	1. Julian R. Park et al, "The role of transgenic crops in sustainable development," <i>Plant Biotechnology Journal</i> , 9, (2011): read pages 2-21.	
Fri 4/18	film	"Developing disease-resistant cattle for Africa"	1. "The 9 billion-people question: special report on feeding the world" <i>The Economist</i> , Feb 26, 2011: read <ul style="list-style-type: none"> <li>• "No easy fix," pages 8-11</li> <li>• "Doing more with less," pages 11-14.</li> <li>• "Our daily bread," page 13.</li> </ul>	QUIZ 6
<b>PART 4. SEEKING SOLUTIONS: challenges to sustainably balancing global supply and demand</b>				
Mon 4/21	lecture	The global food supply-demand balance	1. Luther Tweeten & Stanley R. Thompson, "Long-term Global Agricultural Output Supply-Demand Balance and Real Farm and Food Prices," Working Paper AEDE-WP 0044-08, Ohio State University, (2008): read pages	
Wed 4/23	lecture	Free trade agreements and international trade in agricultural goods	1. Steven Zahniser, "North America Moves Toward One Market," <i>Amber Waves</i> , June 2005: read pages 20-25.	
Fri 4/25	work shop	<i>In class Peer Review of your term paper</i>	<i>Attendance required for all students - bring a hard copy of your term paper or service learning report to class with you.</i>	TERM PAPER DUE
Mon 4/28	lecture	Agricultural subsidies and food aid	1. Timothy A. Wise "Mexico: The Cost of U.S. Dumping" <i>NACLA Report on the Americas</i> , January/February 2011: read pages 47-48.	
Wed 4/30	lecture	Corruption, war, and failed states	1. "Protests in Uganda over Rising Prices Grow Violent" <i>The New York Times</i> , April 22 2011. 2. "The democracy bug is fitfully catching on" <i>The Economist</i> , July 24 <sup>th</sup> 2010: read pages 47-48	
Fri 5/2	case studies	<i>Ag policies and food aid</i>	1. Case 4-3 "Niger's Famine and the Role of Food Aid," Alexandra Lewin: read exec summary 2. Case 6-8 "Food Price Stabilization Policies in a Globalizing World,"_Shahidur Rashid: read exec summary	REVISED TERM PAPER DUE; SERVICE LEARNING REPORT DUE

Mon 5/5	lecture	Globalization and poverty	1. D. Gale Johnson, "Globalization: What it is and Who Benefits," (2002) <i>Journal of Asian Economics</i> 13: read pages 427-439. 2. Antoine Bouet, "How Much Will Trade Liberalization Hurt the Poor?" IFPRI Brief, (2006): read pages 1-4.	
Wed 5/7	lecture	Who will save us: politicians, scientists, or entrepreneurs?	1. Paul Collier, "The Politics of Hunger: How Illusion and Greed Fan the Food Crisis" <i>Foreign Affairs</i> , November/December 2008: read pages 2. "Agribusiness in India: Green shoots" <i>The Economist</i> , March 13 <sup>th</sup> 2010	
Fri 5/9	lecture	Sustainably feeding a world of 9 billion	1. Godfray et al "Food Security: The Challenge of Feeding 9 billion people" <i>Science</i> , 12 February 2010: read pages 812-817. 2. "The 9 billion-people question: special report on feeding the world" <i>The Economist</i> , Feb 26, 2011: read "A prospect for plenty", page 16.	RESPONSE PAPER REVISION DUE
<b>Finals Week</b>				
Wed 5/14	Exam <b>7:30-9:30pm</b>		final exam will be given in the same room the class has been meeting in all semester	FINAL EXAM