

CROPS 360 / SOILS 360
WORLD AGRICULTURAL SYSTEMS
Fall 2008

WELCOME: To World Agricultural Systems, Pullman Campus Edition

INSTRUCTORS: **Steve Ullrich**; 273 Johnson Hall, 335-4936; ullrich@wsu.edu
Office Hours: M, W, 12:00-1:00 or by appointment
David Brown; 249 Johnson Hall; 335-1859; david_brown@wsu.edu
Office Hours: M, W, F 10:00-11:00 AM or by appointment

TEACHING ASST.: **George Nyamadzawo**; 235 Johnson Hall; 335-7817; gnyama@yahoo.com
Office Hours: M, W, F 9:00-10:00 or by appointment

COURSE DESCRIPTION: World Agricultural Systems (WAS) is a course that explores the historical origins of crop and livestock agriculture, surveys how and where our food supply is produced today, and projects what the future may hold for the world's people. The course consists of lecture-discussions that highlight the instructors' personal experiences with world agriculture wherever possible and demand active student involvement at all times.

Students completing WAS will understand the geographic and cultural origins of the major plant and animal foods and the historical rise of the major methods of food production. Students will know how and where food is produced around the world today and will appreciate the impacts of technology including biotechnology, communication, transportation, and globalization. Students completing the course will have the tools and knowledge to keep abreast of world events that affect agriculture and the food supply in ways that will be relevant to their personal and professional lives.

COURSE GOALS: In this course we will:

- *Learn to appreciate the interconnected and complex nature of agricultural systems*
- *Examine agriculture's role as the material basis of world civilizations*
- *Explore the historical development and current state of world agriculture*
- *Explain how world geography and physical environments have shaped agricultural systems and human cultures*
- *Discuss current world, national, and regional events (political, social, climatic, economic, etc.) that affect or are affected by agriculture*
- *Research the history and geography of agriculture for individual countries outside the United States.*

COURSE CONCEPTS: Each unit in this course has a number of specific content-based facts, concepts, or theories. Some of the more important of these include:

- 1) Population growth and agricultural development have been tightly interwoven throughout history and across the globe. However, the connections between population and agriculture are more complex than is commonly understood.
- 2) Different populations around the world went through essentially the same stages in developing agriculture from ancient to modern times. In other words, even though the locations and types of foods varied dramatically between these places, the same sets of principles apply.
- 3) Nature and the natural world (climate, soils, native vegetation, etc.) significantly influence agricultural systems, in many cases providing nearly endless potential, in others providing severe limitations.
- 4) Technological and scientific advances of many kinds over the past two hundred years have dramatically affected our world - including agriculture, yet we don't have to look too far to observe agricultural practices that have been used for thousands of years.
- 5) The history and geography of human civilization are extremely rich, which is especially apparent when we explore civilizations from different places and times. (History and geography are more than a series of endless dates and place names.)
- 6) Many regional, national, and international current events pertain to agriculture. Having an informed historical and geographic perspective can give us the background to help us understand agriculture today and find solutions to current and future problems.

RESOURCES:

REQUIRED RESOURCES: Available at the Bookie and Crimson & Gray
Feeding the Ten Billion, L.T. Evans
Agricultural Geography, 2nd ed., D Grigg

Course information, relevant readings and an active blog can be found at the ***WSU-WorldAgSystems Google Group***.

<http://groups.google.com/group/wsu-worldagsystems>

RESERVE SHELF: As necessary, books and other resources will be put on reserve in the Fischer Ag. Sciences Library in Johnson Hall Annex.

DISCUSSIONS:

This course relies heavily upon student discussion, both in class and on the web. It is therefore essential that all participants (students and instructors) approach these discussions with a spirit of mutual respect and an honest desire to understand alternative perspectives. It is also essential that perspectives be presented with evidence and transparent reasoning. Unsubstantiated opinion is fine for sports blogs (“the Huskies are going to inhale this year”), but not for academic discourse.

ASSESSMENT/EVALUATION CRITERIA:

Your achievements will be evaluated based upon: (1) five quizzes (~30 min); (2) a substantial research paper on the history and geography of agriculture for a country of your choice; (3) your contributions to class discussion (both in class and on the blog); (4) a team poster presentation and international pot luck dinner. We suggest you thoroughly read the assigned material, stay on top of lecture, have a good attitude, and an open mind. Come to class (and the blog) with questions, answers, and informed opinions. Guidelines will be handed out for class/blog participation, the international pot luck dinner, and the research paper.

Point values of class components:

5 Quizzes (50 points each)	250
Report	150
Engagement (blog and in class)	50
Poster/Food Presentation	50
Total	500

STANDARD POLICIES:

STUDENTS WITH DISABILITIES: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations **MUST** be approved through the DRC (Admin Annex Bldg, Room 205). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

ACADEMIC DISHONESTY: Academic dishonesty includes cheating, plagiarism, and fabrication in the process of completing academic work. Academic dishonesty will not be tolerated in Crops/Soils 360. All students are reminded of the procedures for academic dishonesty as outlined in the Washington State University Student Handbook. Students may consult with each other on lecture notes, preparing for tests, and discussion section exercises, but tests, papers and exercises themselves must be individual efforts.

LATE WORK: All assignments must be turned in on the due date shown on the schedule, on the assignment itself, or announced in class. Late work will lose 20% of the total point value per week late unless arrangements are made *prior* to the due date. Assignments more than three weeks late will not be accepted.

WEEKLY TOPICS AND READING ASSIGNMENTS 2008:

VERSION 08/21/08

Date	Topic	Reading Assignment
		<u>Text, pages</u>
Week 1		
08/25	Introduction: <i>What is agriculture?</i>	Grigg, 2-3
08/27	Major Crops: <i>How can we classify crops?</i>	
08/29	Major Livestock: <i>How can we classify livestock?</i>	
Week 2		
09/01	Labor Day Holiday (No Class)	
09/03	Ag Systems: <i>What do cropping systems have in common?</i>	Grigg, 9-12
09/05	Ag Systems: <i>What do livestock systems have in common?</i>	Grigg, 13-17
Week 3		
09/08	Ag Systems: <i>Can large-scale monocropping be replaced with organic ag?</i>	
09/10	Ag Systems: <i>Development in the tropics: plantations or subsistence ag?</i>	
09/12	Ag Systems: <i>What are the alternatives to concentrated animal operations?</i>	
Week 4		
09/15	Quiz 1	
09/17	Ag Origins: <i>Is hunting & gathering agriculture?</i>	Evans, 7-17
09/19	Ag Origins: <i>Why did humans begin farming?</i>	Evans, 18-25
Week 5		
09/22	Ag Origins: <i>Was the Fertile Crescent the cradle of agriculture?</i>	Evans, 26-29
09/24	Ag Origins: <i>How do we identify domesticated wheat?</i>	Evans, 29-31
09/26	Ag Origins: <i>Why did different ag systems develop in China?</i>	Evans, 31-33
Week 6		
09/29	Ag Origins: <i>Why is rice so adaptable?</i>	Evans, 33-35
10/01	Ag Origins: <i>When & where did ag start in the Americas?</i>	Evans, 36-38
10/03	Ag Origins: <i>Why was the domestication of maize so unlikely?</i>	Evans, 38-40
Week 7		
10/06	Quiz 2	
10/08	Ag Geography: <i>How did climate change impact early African ag?</i>	Evans, 40-43
10/10	Ag Geography: <i>What is agricultural geography?</i>	Grigg, 1-8
Week 8		
10/13	Ag Geography: <i>What drives global climate patterns?</i>	
10/15	Ag Geography: <i>Which climate factors most influence ag geography?</i>	Grigg, 19-39
10/17	Ag Geography: <i>What are the major controls on soil geography?</i>	
Week 9		
10/20	Ag Geography: <i>Is there an edaphic (soil) optimum for crops?</i>	Grigg, 40-50
10/22	Ag Geography: <i>Why is agriculture challenging in the mountains?</i>	Grigg, 51-58
10/24	Ag Geography: <i>What are the key non- environmental factors?</i>	Grigg, 101-158

Week 10

10/27

Quiz 3

10/29

Modern Ag: *Who was Jethro Tull?*

Grigg, ch. 8; Evans, 54-57; 155-158

10/31

Modern Ag: *Who first irrigated crops?***Week 11**

11/03

Modern Ag: *What do plants eat?*

Evans, 90-98; 105-107; 119-121; 176-168

11/05

Modern Ag: *How can pests be controlled?*Evans, 99-100; 107-110; 126-129;
160-162; 168-169

11/07

Modern Ag: *How has mechanization affected ag?*

Evans, 117-119; 169-170

Week 12

11/10

Modern Ag: *What are genetic resources in ag?*Grigg, ch. 14; Evans, 101-105;
121-124; 158-160; 209-211

11/12

Modern Ag: *Green revolution! Brown revolution?*Evans, 146-147; 204-207;
214-217

11/14

Modern Ag: *First environmental backlash to ag?*Grigg, ch. 16; Evans, 57-62;
64-67; 124-125; 141-143; 172-175**Week 13**

11/17

Quiz 4

11/19

Special Topics: *Are biofuels really green?*

11/21

Special Topics: *Will genetic engineering revolutionize agriculture?*

Evans, 162-164

Week off

11/24-11/28

Thanksgiving Break**Week 14**

12/01

Case study: *Fiji*

12/03

Case study: *Sri Lanka*

12/05

Case study: *Zimbabwe***Week 15**

12/08

Case study: *European Union*

12/10

Case study: *Bolivia and Peru*

12/12

Quiz 5***** No Final Exam *****