

George Mason University
Department of Geography
and Geoinformation Sciences
Fall Semester 2015

World Food and Population
GGS 399-002
Course Syllabus

Instructor: Mr. F. H. Dillon, III **Class Location:** Exploratory Hall, Room L111
Office: Exploratory Hall, Room 2220 **Meeting Time:** Wednesday, 4:30-7:10 p.m.
Office Hours: Wednesday, 7:30-8:00 p.m. or by appointment
Email: fdillon@gmu.edu
Course Blackboard Page: mymasonportal.gmu.edu

Course Overview:

The focus of this course is on the geography of agriculture as a global food production system. Particular attention will be paid to the interaction of cultural and environmental factors in shaping the variations in agricultural forms observed around the world. The course will include both mandatory and optional field observations of agricultural activities in addition to regular class meetings. Students will demonstrate a comprehensive understanding of agriculture in general and present the results of research on a specific agricultural commodity in particular.

Course Objectives:

Based upon the reading and class discussion, students will be able to:

1. define agricultural geography and describe the principal geographical concepts associated with the agricultural practices of different world regions;
2. explain how environmental factors, such as climate, soils, topography, and vegetation shape agriculture;
3. explain how cultural factors, such as gender, economics, diet, religion, and land tenure affect agriculture;
4. explain the differences among agricultural forms, such as subsistence and commercial agriculture, and suggest how these forms develop in response to cultural and environmental factors;
5. analyze the effects of population pressure, governmental policy, and farmers' decisions on food production systems.

Required Text:

1. David Grigg, *An Introduction to Agricultural Geography*, 2nd ed., Routledge, 1995.
2. John Fraser Hart, *The Rural Landscape*, Johns Hopkins University Press, 1998¹
3. Other readings as assigned; these will be available on reserve in the Johnson Center library.

Optional Text:

A world atlas, preferably Goode's World Atlas, 21st edition, Rand McNally, which will be used in class. Used copies of Goode's are frequently available in the bookstore; however, any good world atlas by Nystrom, Hammond, or Rand McNally will suffice as long as it includes global and regional maps of climate, soils, crop production, land use, vegetation regions, and nutrition.

¹ Available as an electronic resource from Mason Library at <http://magik.gmu.edu/cgi-bin/Pwebrecon.cgi?BBID=2842138>

Student Requirements:

Because this is an upper level course students are expected to read and write critically, and conduct significant research outside the classroom. Students are responsible for all assigned reading and lecture material.

Examinations and Examination Policies:

1. Two Exams: a Mid-term and a comprehensive Final Exam.
2. Makeup exams will **NOT** be given except under the most extraordinary circumstances (e.g. emergency hospitalization). Makeup arrangements must be requested in writing in advance of the exam. A physician must document medical absences; this is available for all students through the University Health Clinic.
3. The Final Exam will **NOT** be administered early; please plan ahead.

Field Observations:

1. Students must participate in one field observation of a selected agricultural activity and submit a written observation report (see Annex A).
2. Some of the field observations require a nominal entrance fee.
3. Additional, optional, observations are planned and students are encouraged to participate in these observations on an extra credit basis.

Research and Analysis:

1. Prepare a geographically based analysis of a selected agricultural commodity. Your written findings will be submitted as an atlas (see Annex B).
2. Review a major daily newspaper every day in preparation for class.

Written Work:

1. Field observation reports (see Annex A).
2. An agricultural atlas of a selected commodity (see Annex B).
3. Papers cannot be accepted beyond the date indicated on the class schedule.

Academic Integrity:

Academic integrity is essential. Each individual is expected to do his or her own work; representation of the work of others as your own is a serious ethical violation. Violations of the University Honor Code will not be tolerated and will result in course failure.

Grading Scheme and Policy:

Letter grades of A, A-, B+, B, B-, C+, C, D, and F will be assigned for completion of this course based on the cumulative score of all evaluated work. Rather than assign individual letter grades for the individual projects listed below, they will be evaluated on a per cent basis from which the final, total, score will be determined. As an upper level course the following grading scale will be employed: A = 100-95, A- = 94-92, B+ = 91-90, B = 89-82, B- = 81-80, C+ = 79-78, C = 77-70, D = 69-60, F = below 60. A grade of Incomplete must be requested in writing in advance, no later than 11/18, and can only be approved with a passing grade average.

Mandatory Field Trip Observation 10 % Atlas 30 % Participation 10 %
Mid Term 25% Final 25%

Key Dates:

9/2	Class Begins	12/9	Last date for submission of written work.
9/8	Last day to add course	12/16	Final Exam - 4:30-7:15 p.m.
10/21	Mid Term Exam		
11/25	No Class Thanksgiving Break		

Tentative Class Schedule
(As of 30 August 2015)

Week	Date	Topic	Assignment	Reading
1	9/2	Introduction		Grigg, Chap 1
2	9/9 ²	Biology of Agriculture		Grigg, Chap 2
3	9/16	Climate		Grigg, Chap 3
4	9/23	Soils/Topography		Grigg, Chap 4,5; Hart, Chap 6
5	9/30	Food Consumption Patterns		Grigg, Chap 6
6	10/7	Agricultural Economics		Grigg, Chap 7
7	10/14	Agricultural Markets		Grigg, Chap 10
8	10/21	Mid Term Exam / Land Ownership		Grigg, Chap 13; Hart, Chap 7,8,12
9	10/28	Culture and Farming		Grigg, Chap 15
10	11/4	Spatial Diffusion and Agriculture		Grigg, Chap 14
11	11/11	The State and the Farmer		Grigg, Chap 9
12	11/18	Agricultural Innovation Modernization of Agriculture		Grigg, Chap 8
	11/25	No class - Thanksgiving		
13	12/2	Agriculture and Environment		Grigg, Chap 16
14	12/9	Graduate Presentations	Atlas due	
Final	12/16	4:30-7:15 p.m.		

Field Trips – TBD dates will be announced separately.

Annex A: Field Observation Reports**Annex B: Agricultural Atlas**

² You must be enrolled in the course not later than 8 September to receive a grade. **No “Force Adds” are possible on or after this date.** Check Patriot Web for enrollment status.

Annex A

Field Observation Reports

Students are required to complete **one mandatory**, and preferably one additional (optional for extra credit), field observation exercise during the course. The purpose of these observations is to provide first hand knowledge of various agricultural systems and the physical and cultural factors that shape such systems. The list of tentative observation sites is listed in the attached appendix. As there will most likely be limited seats for each trip, participation will be on a first come, first served basis. Detailed observation instructions will be provided prior to each trip and tailored to the activities under observation.

Following each trip, participants will submit a written assessment of their observations. Every student must submit at least one such observation. The assessment will consist of a minimum four page observation report consisting of the following:

- a. description of site location and activity
- b. significant physical factors (climate, soil, slope, etc.) shaping the agricultural system observed
- c. significant cultural factors (economics, technology, etc.) shaping the agricultural system observed
- d. assessment of how this observation contributed to your understanding of geographical variations in agricultural systems

You should tie in assigned and outside readings that relate to the type of activity under observation. Completion of a report for the second, optional, field observation will be evaluated on an extra credit basis.

The format for the review will be four pages minimum, double spaced with one inch margins and using a 10 or 12 pitch font. Your name, student number, the location, and date of the observation will appear at the top of the first page. References in the body of your review, if you refer to readings, should be cited in the APA style.

The evaluation of reports will be based on the specific items listed above as well as the effectiveness of the writing.

Mechanics - including following the format, spelling, grammar, and punctuation.

Organization and Logic - including cohesive logical development of your perspective.

Intellectual Rigor - including support for you statements; no vague generalities.

Reports are due as indicated in the class schedule, generally one week after the trip. Late papers will probably lose points.

You should never submit a paper that has not been edited. In the age of "spellcheckers" spelling errors indicate sloppy work. If you lack a spell check system, try a dictionary. If you are not comfortable writing, or English is not your first language, get some help. Use the Writing Center. At a minimum have a friend preview your work before you submit it for a grade.

Appendix 1 to Annex A

Tentative List of Observation Sites

Location	Date	Remarks
Claude Moore Colonial Farm, McLean, VA	19 Sep	\$3.00 entrance fee; self drive
Fauquier County dairy farm	26 Sep (tentative)	\$10.00 entrance fee; GMU van (depart from Starbucks)
Winchester Agricultural Research Station (tentative)	TBD	GMU van (depart from Starbucks)

Annex B GGS 399

Agricultural Atlas

The research project for this course is designed to familiarize you with the various aspects of the agricultural system as associated with a particular commodity. You will become something of a “subject matter expert” in a particular agricultural product. The results of your research will be submitted as an agricultural atlas.

The atlas will be composed of a series of maps and text organized as follows:

- Title page with your name and student number.
- Table of contents listing all atlas components. Use tabs to separate all the component parts.
- Part 1: Introduction.
 - Start with a two or three page introduction that describes the main points of your atlas. Consider all of the following:
 - a. Why did you choose this topic?
 - b. What is the relative importance of your commodity on a regional or global basis?
 - c. What significant fact did you learn from this project?
 - d. How does this atlas tie into the course subject matter?
- Part 2: Describe your crop or product.
 - a. Using illustrations, identify the various parts of the plant, especially those parts consumed or used.
 - b. Describe the food or other uses for your commodity.
 - c. What cultural features, if any, are associated with this crop?
- Part 3: Describe the necessary growing conditions.
 - a. Describe the optimum climate (growing season, temperature, moisture) and soil (pH, texture, depth) needed for the crop. Use maps to show the optimum locations.
 - b. Describe the growing cycle, including time of year, for soil preparation, planting, plant protection (weeds, pests), and harvest methods.
 - c. Describe nutrient requirements and/or processes (e.g. nitrogen fixing) associated with your plant.
 - d. Describe the vulnerability of your plant to pests and diseases. List the primary pests and diseases of your crop. Discuss protective measures.
- Part 4: Map the distribution of your crop
 - a. Make a map showing where this crop was domesticated. You may wish to map the locations of wild varieties as well.
 - b. Based on the factors described in Part 3, make a map showing the **current** distribution of the selected crop or product.
 - c. Describe yield variations (with a map) on a geographic basis.
 - d. Identify the countries and regions that are the largest producers.
- Part 5: Map how the crop or commodity is marketed and sold.
 - a. Describe processing requirements (e.g. removing cyanide from cassava) or opportunities (e.g. various products from corn or soybeans) for your product.
 - b. Make a map showing the consumption and/or trade patterns for this crop or product.
 - c. Identify the countries that are the largest consumers.
 - d. Describe market systems and prices (where possible) for your commodity.
- Part 6: Describe the application of technology to your crop including:
 - a. How has hybridization or genetic engineering improved your plant?

- b. What fertilizers, pesticides, and herbicides are used in growing this crop?
- c. What machinery is used for planting, harvesting, and field processing? Does this vary by World region?

- Part 7: Annotated bibliography

Each map or illustration should be accompanied by a brief (one-page) explanation that connects this specific topic to the larger purpose of the atlas. Maps may be generated through GIS or other mapping software or may simply be made from photocopied “base” maps. See “Maps on File” in the Reference Section of Fenwick Library for blank base maps. Use the information available in the Goode’s atlas but **DO NOT** simply photocopy those maps. Suitable maps, blank or otherwise, may also be available over the Internet; make sure they properly convey your message. Hand drawn and/or colored maps are perfectly acceptable. Please insure all maps meet the basic standard of a title, scale, direction, and legend. Neatness counts; do not let good information get lost on a bad or messy map.

The atlas will be evaluated primarily on the basis of coverage of the topics listed above. Each one of the topics listed above must be addressed; if you have no information or the item does not apply, state that fact. Text should be your own work (not some internet minion) and well written without spelling or grammatical errors. Maps and illustrations should be neat and labeled. References are required for all sources, especially maps or the data mapped on them.

The following format will standardize presentations. Text should be prepared using 1-inch margins and 10 or 12-pitch font. Use one standard page size (i.e. 8½ x 11) for all maps.

I have placed on reserve in the Johnson Center library the following items to aid in your research. You can find these listed in the library catalog under course reserves; look under my name or the course number. Take advantage of them.

Call Number	Title	Author
SB107.B76 P6	Plants Consumed by Man	Brouk
SB106.074 E96 1995	Evolution of Crop Plants	Smartl;Simmonds
SB387.7.U58 1991	Wine and the Vine	Unwin
SB107.B3 P6	Plants and Civilization	Baker
E112.S45 1991	Seeds of Change	Viola; Margolis

I have listed on the course Blackboard page a number of web sites that will provide information on your subject. These sources can provide details, images, and, in some cases, maps you can use.

Appendix 1 to Annex B: Agricultural Atlas

List of Selected Agricultural Commodities
Choose from one of the following:

- Wheat
- Rice
- Corn (Maize)
- Cotton
- Sugar Cane
- Sugar Beet
- Millet
- Sorghum
- Barley
- Rubber
- Palm Oil
- Oats
- Cacao
- Olive Oil
- Coffee
- Tea
- Soybeans
- Bananas
- Potatoes
- Cassava (Manioc)
- Grapes/Wine
- Oranges