Mayville State University

GEOG 350, Geography of Agriculture (2290)

Fall,2023

3 Credit Hours

Course and Instructor Information

Instructor Name: Dr. Thomas Craig, Assistant Professor of Geography

Contact Information: Old Main 320, thomas.craig@mayvillestate.edu, 701-788-4809

Hours of Availability: 11:30 am - 12:30 pm M-F (Zoom), 8-9 pm W (Zoom), or by appointment

Instruction Mode: Face-to-Face

Meeting Times and Location: Tuesdays and Thursdays, 10:00-11:15 am, Old Main 310

How to address your instructor: Given my rank at MSU and my degree, I prefer to be called: "Dr. Craig"

Course Description

This course examines the geographical patterns and environmental impacts of the production, distribution, and consumption of food and fiber across the world. This includes the socio-economic relationships attributed to plant cultivation and animal husbandry, while focusing on culture, politics, and development. Topics such as genetically modified crops, sustainability in agricultural production, food security, "local" food movements, food miles, bioenergy, urban farming, and cuisine as an identity marker will be discussed. In addition, students will learn how to use emerging technology, such as an unmanned aerial vehicle (UAV, or drone), to explore agricultural issues with local farmers.

Purpose of the Course

This course will provide you with an in-depth approach to the geography of agriculture, including its origins, spatial diffusion, revolutions, patterns, and technological developments. You will learn about various spatial models and geospatial technologies that assist in our understanding of modern agricultural systems around the world, as well as the role of precision agriculture. We will also explore firsthand the use of UAVs in the field with the further purpose to expose you to current software used. This course was developed to assist both Social Science and Agribusiness majors.

Pre-/ Co-requisites

GEOG 103 or Consent of the Instructor

Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Social Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board (ND ESPB):

- *Understand* the basic characteristics of physical environments for agriculture in temperate and nontemperate regions, and the effect on those respective ecosystems.
- *Recognize* the relationship between physical environments, culture, and political economy in the historic and contemporary development of food and agricultural systems.
- *Explore* linkages between local and global agricultural change in the world's food system.
- *Investigate* current controversies related to food and agricultural geography.
- *Consider* the future of agriculture and prospective solutions to geographical questions.
- *Demonstrate* the usefulness of geospatial technologies for agricultural production.

Standards Alignment (Social Science Education Program Approval Standards-ND ESPB):

- 15035.1 In the social studies composite major curriculum the program requires the study of a broad base of social studies

including history (eighteen semester hours) and at least two of the following three core areas: political science and civics (twelve semester hours), economics (twelve semester hours), and geography (twelve semester hours). Additional electives to the social studies composite may include: sociology (six semester hours) or psychology (six semester hours) or anthropology (six semester hours) or global studies (six semester hours).

Required Materials and Technologies

Hudson, J. and Laingen, C. (2016). *American Farms, American Food: A Geography of Agriculture and Food Production in the United States.* Lanham, MD: Lexington Books.

Norwood, F., Oltenacu, P., Calvo-Lorenzo, M., Lancaster, S. (2015). *Agricultural and Food Controversies: What Everyone Needs to Know.* New York: Oxford University Press.

*Other readings will be provided as links or PDFs on Blackboard.

**Students must meet all university technology requirements.

Course Expectations

Instructor/Student Communication

Students are accountable for all academic communications sent to their Mayville State University e-mail address. I prefer to be contacted by email. I will do my best to respond in a timely manner (within the working day if received between 7am and 4 pm; evening and weekend communication may take longer).

Assignments and Assessments

Participation

While daily attendance will be recorded, the points associated with participation will require much more than just showing up. This course will require you to have opinions and to give your "two cents" on a variety of topics. It is **essential that you complete the preparatory material before coming to class each day to participate in small and whole group conversations regarding the topics/issues we discuss.** Every class that has reading required will be worth 2 points, for a total of 15 class meeting times (30 points total).

Your success in this course is dependent upon both your attendance and involvement in discussions. Please do not be TIMID. Therefore, please come to class prepared to participate and engage with the material. Bring any questions you may have, and also be ready to share your reactions and comments in class. **Respect the views of your classmates, even if you disagree.**

Reading Quizzes

There will be **eight (8) quizzes** based on your readings throughout the term. This includes readings from our two required texts *(American Farms, American Food* and *Food Controversies),* but will also include the various other chapters and/or articles that are assigned and available through Blackboard. Quizzes will consist of **ten questions,** each worth one point (for a total of 10 points; 80 points total). Each quiz will only cover the readings since the previous quiz. Therefore, Quiz #1 will cover all the readings from the beginning of class until the Quiz #1 deadline, and then Quiz #2 will cover readings since Quiz #1 was completed, Quiz #3 since Quiz #2 was completed and so on.

You may use your readings during the quiz; however, you will only have fifteen minutes to complete the quiz. If you are not satisfied with your initial score, you have the option to take the quiz a second time, and the two scores will be averaged. Quizzes will be administered through the Blackboard course website in the respective "Quizzes" folder. Quizzes **must be completed by 11:59 pm** on their respective due dates (see Course Timeline/Schedule). **PLEASE,** do **NOT** wait until the last moments before the quiz closes to take it, as technology is often unpredictable. If you do not complete a quiz by the deadline, you may **NOT** make it up.

Controversial Conversation Leader

As we cover temperate agricultural systems, we will discuss several controversial topics regarding food and agricultural production using the text *Agricultural and Food Controversies* (Norwood et al., 2015). The book is set up to present both (or more) sides of ethical debates within agriculture, such as farm subsidies, pesticides, and GMOs. You will team up with at least one other student to develop thoughtful discussion questions for **ONE** of these conversations based on the chapter reading (as well as other material you may find on the topic). Questions **must** be submitted through Blackboard by **11:59 the night before** your respective conversation, and then lead our discussion the next day (about 15 minutes). This will be worth 25 points. Dr. Craig will be the question leader for the first conversation to provide some examples (see below). Students will sign-up for these in the first week of class at a first come, first serve basis.

CC#	Date	Chapter	Topic	Question Leader(s)
1	10/14	6	Farm Subsidy	Dr. Craig
2	10/19	3	Chemical Fertilizers	1. 2.
3	10/21	5	GMO	1. 2.
4	10/26	8	Livestock	1. 2.
5	10/28	4	Carbon Footprint	1. 2.
6	11/2	2	Pesticides	1. 2.
7	11/9	7	Local Food	1. 2.

Fihn Reflections

You will complete **three** reflection papers throughout the semester. Reflection papers will be based on three films we watch in class. Each paper will consist of a two-page, double-spaced reaction to the major themes/issues presented in the films and will be worth **15 points** (45 points total). More information will be given about these papers after the first film (and be posted on Blackboard). You will be given **one week** from the end of each film to submit your papers to Blackboard (11:59 pm).

Book Review and Presentation

Each student will complete **one** book review of a recent title in agriculture. Briefly, this will include: 1) selecting a book (5 points), 2) one individual meeting with instructor (10 points), 3) a "reader-to-reader" mini-review (15 points), 4) a 10-15-minute class presentation (20 points), and 5) a 1000 to 1500-word review (SO points), for a total of 100 points. We will follow the American Association of Geographers (AAG) Guidelines for Book Reviews. Please refer to the list of prospective titles on Blackboard, although you may select your own title with instructor approval. All texts will be purchased by the library, and you will have exclusive access to the book for the entire semester. More information about the book review and its components will be discussed throughout the semester (and posted to Blackboard).

UAV (Drone) Group Project

You will have the opportunity to visit the Hovde Farm in Portland, North Dakota. This farm has several different functions (e.g. cattle, soybeans, corn, alfalfa, etc.), and therefore will provide numerous opportunities to learn about local agricultural production. It will also serve as the host farm for your group projects. You will learn how to appropriately fly a small unmanned aerial vehicle (UAV), or drone, and additionally learn how to use current software (DroneDeploy) that assists agricultural producers. As a group, you will develop a unique flight plan to explore a particular issue on the Hovde Farm. After collecting necessary data from the farm, you will work together in your groups to create a written and visual report of your findings. At the end of the experience, you will present these findings to the class in the form of an analysis that could prospectively help the farm. Representation from the farm will be in attendance. This project will account for 120 points, which is broken into several parts:

1. **UAV Quiz** (10 points) - Multiple-choice quiz about safe flying and FAA regulations.
2. **UAV Training** (10 points) - Completion of basic UAV actions (e.g. assembly, take off, control, landing, etc.).
3. **DroneDeploy Training** (10 points) - Completion of worksheet after watching software demonstration.
4. **Project Planning** (10 points) - Participation in group to produce flight plan for data collection using software.

5. **Fieldtrips** (20 points) - Attending trips to the Hovde Farm to collect data.
6. **Written Data Analysis** (20 points) - Writing a brief write-up of their research and findings.
7. **Maps and Models** (20 points) - Creating several maps and/or models for presentation.
8. **Group Presentation** (20 points) - Presenting research and findings to class and other invited guests.

Assessments

You will complete two formal assessments. Each assessment will be in the form of a take-home exam that will be typed and submitted through Blackboard. **Each exam will be worth 50 points (100 points total).** Each assessment will only cover respective material (i.e. not comprehensive). The format will include 2 questions, each worth 25 points, that will expect you to show not only your knowledge and comprehension of material, but also your application and analysis to given situations. You will have about one week to complete each assessment on Blackboard:

Assessment #1- Begins Thursday, October 7th at 5:00 pm; due Thursday, October 14th at 5:00 pm.
Assessment #2- Begins Tuesday, December 7th at 5:00 pm; due Wednesday, December 15th at 5:00 pm.

You will be able to use materials on your exam and be expected to use MLA or APA citations when and where necessary. Again, you will need to do more than just regurgitate from our readings and show higher-ordered thinking in your responses. More information will be provided in class and on Blackboard.

Method of Evaluation/ Grading

Grading Policies

I will do my best to turn around work completed in this course in a timely manner (optimally within a week of a respective deadline, but no more than two weeks). Moreover, I will attempt to leave helpful comments when and where necessary. Most evaluation is based on rubrics, which are available for you to consult as you complete respective assignments.

To maintain timely feedback, I **will not accept** late submissions of quizzes, assignments, discussion posts or assessments, although I understand *extraordinary* circumstances do occur (such as medical/ family emergencies). Any requests for extensions based on these circumstances must be sent via email **within 24 hours** of the respective deadline. **All deadlines will be by the end of their respective due dates (i.e. 11:59 pm).**

Attendance /Participation Policies

To successfully complete this course, your attendance and active participation is required. Participation in classroom discussions, demonstrations, and interactive activities will result in stronger connections to theory and practice, adding to the quality of your learning experience.

Grading Scale

The overall course evaluation is based on 500 total points, with the following grading scale: A (100-90%), B (89-80%), C (79-70%), **D** (69-60%), F (<60%) (percentages are rounded).

Breakdown of Grades

Assignments/ Assessments	Total# of Assignments	Points Possible for each	Total Possible Points (% of Grade)
Participation	15	2	30 (6%)
Reading Quizzes	8	10	80 (16%)
Controversial Conversation Leader	1	25	25 (5%)
Film Reflections	3	15	45 (9%)
Book Review and Presentation		100	100 (20%)
Drone Group Project		120	120 (22%)
Assessments	2	50	100 (20%)
Total Points Possible			500 (100%)

Tips for Success

Faculty often take for granted the rules of the game for academic success. By virtue of our faculty status, we successfully navigated the university setting for years. But it was not always that way. I remember feeling like a fish out of water throughout my undergraduate years. I did not understand what "office hours" were, so I rarely went to them. I also did not write to my professors with questions that I was too afraid to ask in class. Indeed, I knew little if nothing about what resources existed on my campus, and I often wondered how other students found out about things like scholarship opportunities, internships, study abroad, and so on. So here are just a few items to consider regardless of whether you are embarking on your first or final semester as an undergraduate:

- If you have a question about course content, ask it! I am an expert in my field of study, and I want to share my expertise with you.
- If you have a question that is not about the course, and feel comfortable enough, ask that too! If I do not know the answer, I can likely point you to someone on our campus who does.
- The library and its staff are the single greatest resource we have on campus. The library is a living bibliography of the entirety of human knowledge and condition. Whatever topic you find interesting (regardless of if you find it in this course!), the library staff can help you find relevant information. You just need to ask them.
- Get to know the Writing Center! Writing successfully at the college-level is something you likely do not yet know how to do well. It is a process. The Writing Center and its staff can help demystify your assignments and help you to write more clearly and effectively. Again, you need only ask them.

Enrollment Verification

The U.S. Department of Education requires instructors to conduct an activity which will validate student enrollment in this course. Class attendance will be used to verify enrollment in on-campus courses. If you do not attend, your enrollment in this course will be at risk.

Important Student Information

Navigate to Blackboard> My MaSU tab> Student Resources tab to find a document entitled, "Important Student Important Information," which includes information about:

Academic Grievance Concerns and Instructor English Proficiency
Starfish - Student Success System
Students with Documented Disabilities
Student Learning Outcomes / Essential Learning Outcomes
Academic Honesty
Emergency Notification
Continuity of Academic Instruction for a Pandemic or Emergency
Family Educational Rights and Privacy Act of 1974 (FERPA)
Diversity Statement (Title IX)

Course Timeline/Schedule

Week	Date	Topic	Readings	Due
1	8/24	Expectations Why Agriculture? Why Geography?		
	8/26	Physical Geography: Ecosystems, Climate, Soils, and Energy	Robinson (2004, pp. 1-29)	
2	8/31	Human Geography: Agricultural Revolutions and Agricultural Spatial Patterns	Diamond (1987) Cleveland (2014, pp. 47-70)	
	9/2	Precision Agriculture and Using Unmanned Aerial Vehicles (UAVs)	Frankelius et al. (2017) Shannon et al. (2018)	Quiz #1
3	9/7	Flight School		UAVQuiz
	9/9	Learning to use DroneDeploy		DroneDeploy Worksheet
4	9/14	Hovde Farm Trip #1: Introduction		
	9/16	Group Flight Planning with DroneDeploy		Group Flight Plan
5	9/21	Hovde Farm Trip #2: Data Collection		
	9/23	Data Analysis Part 1		
6	9/28	Data Analysis Part 2		
	9/30	Film #1: *Follow the Food· Hi-tech Solutions, Smarter Haroest*		
7	10/5	Project Presentations		
	10/7	FLEX DAY		Film Paper #1
8	10/12	Introduction: Temperate Agricultural Systems	Hudson & Laingen (2016, pp. 1-22) Norwood et al. (2015, pp. 1-11)	Quiz #2
	10/14	The Corn Belt Controversy Conversation **#1**	Hudson & Laingen (2016, pp. 23-36) Norwood et al. (2015, pp. 87-98)	Assessment 1
9	10/19	Wheat and Grains Controversy Conversation #2	Hudson & Laingen (2016, pp. 37-50) Norwood et al. (2015, pp. 26-41)	Quiz #3
	10/21	Dairy Controversy Conversation #3	Hudson & Laingen (2016, pp. 51-64) Norwood et al. (2015, pp. 58-86)	
10	10/26	Pork and Beef Controversy Conversation #4	Hudson & Laingen (2016, pp. 65-82) Norwood et al. (2015, pp. 110-146)	Quiz #4
	10/28	Poultry Controversy Conversation #5	Hudson & Laingen (2016, pp. 83-96) Norwood et al. (2015, pp. 42-57)	
11	11/2	Fruits and Vegetables Controversy Conversation #6	Hudson & Laingen (2016, pp. 97-112) Norwood et al. (2015, pp. 12-25)	Quiz #5
	11/4	Film #2: *Food Chains*		
12	11/9	Organic Farms and Reserved Lands Controversy Conversation #7	Hudson & Laingen (2016, pp. 113-134) Norwood et al. (2015, pp. 99-109)	Quiz #6

	11/11	**NO CLASS** **(Veterans Day)**		Film Paper #2
13	11/16	Introduction: Nontemperate Agricultural Systems	Robinson (2004, pp. 146-166)	Meeting and Mini-Review
	11/18	Plantations and Small-Holder Agriculture	Fan and Rue (2020) Rosner (2018)	Quiz #7
14	11/23	Film #3: *The Bitter Taste* ef *Eviction*		
	11/25	**NO CLASS** **(Thanksgiving)**		
15	11/30	Swidden Agriculture	Mazoyer et al. (2006, pp. 101-142)	Film Paper #3
	12/2	Pastoral Nomadism	Richerson et al. (2001, pp. 75-93)	Quiz #8
16	12/7	Book Review Presentations Group 1		Book Review and Slides
	12/9	Book Review Presentations Group 2		
17	12/15	**Finals Week **DUE AT 5 PM****		Assessment 2

Additional Reading List References (found on Blackboard):

Cleveland, D. (2014). *Balancing on a Planet: The Future* ef *Food and Agriculture.* Berkley, CA: University of California Press.

Diamond, J. (1987). The Worst Mistake in the History of the Human Race. *Discover,* 8(5), 64-66.

Fan, S., & Rue, C. (2020). The Role of Smallholder Farms in a Changing World. In *The Role* ef *Smallholder Farms in Food and Nutrition Security* (pp. 13-28). Springer, Cham.

Frankelius, P., Norman, C., & Johansen, K. (2019). Agricultural innovation and the role of institutions: lessons from the game of drones. *Journal* ef *Agricultural and Environmental Ethics,* 32(5), 681-707.

Mazoyer, M., and Roudart, L. (2006). *A History* ef *World Agriculture: From the Neolithic Age to the Current Crisis.* New York: Monthly Review Press.

Richerson,]. Mulder, M., & Vila, B. (2001). *Principles efHuman Ecology.* Los Angeles: Simon and Schuster Publishing.

Robinson, G. (2004). *Geographies* ef *Agriculture: Globalisation, Restructuring and Sustainability.* London: Pearson/Prentice Hall.

Rosner, H. (2018). The Other Oil Crisis. *National Geographic,* 234(6), 76-101.

Shannon, D. K., Clay, D., & Sudduth, K. (2018). An Introduction to Precision Agriculture. In *Precision Agriculture Basics* (pp. 1-12). Madison, WI: American Society of Agronomy, Crop Science Society of America, Soil Science Society of America.

Appendix

Other Required Items, if Applicable:

Coronavirus (COVID-19) Information for On-Campus Courses

The health and safety of our students, staff, and faculty is our top priority. Mayville State University is committed to continuing face-to-face instruction for on campus courses each semester while minimizing exposure risk and promote health and safety for students, faculty, and staff. Please refer to the *Comets Choose 2.0 Guidelines* and the *COVID-19 Classroom Guidelines for On-Campus Courses* documents for additional information regarding implementation procedures for Comets Choose 2.0 and classroom expectations and modifications necessary to minimize exposure risk and promote health and safety for students and faculty within on-campus classes in light of COVID-19.

Mask/Face Covering Requirement: The use of a mask/face covering is <u>required</u> in this class. This requirement will remain in place in this class or designated learning space until you are informed otherwise. This is a requirement regardless of an individual's vaccination status. Non-compliance with this class mask/face covering requirement will result in a student code of conduct violation and associated consequences outlined in the MSU Student Handbook.

If a rebound in COVlD-19 local infections necessitates a change in course format, plans for remote options for this course include transitioning into an asynchronous, online model of instruction. This will include some modification (for example, recorded lectures), but much of the structure and assessment of this course will remain intact.

Division-Specific Items

Late Arrivals

The grading system for students adding this course after the first day of instruction will be modified. The student will be graded only on the activities that transpired while the student is enrolled. Students will not be penalized for missed assignments, but the student is still responsible for learning the course material that was covered during their initial absence.