



UWSP – College of Natural Resources

WATR 350 Special topics: *Agriculture-Water Nexus in Wisconsin*

3 credit hours

Spring 2023

Online asynchronous

Instructors Contact Information

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 - Office Hours: MW, 8am-10am. (In office or Zoom)

Other instructors include: A. Thompson (UW-Mad), F. Arriaga (UW-Mad), K.G., Karthikeyan (UW-Mad), J. Sanford (UW-Platt), C. Baxter (UW-Platt), I. McKinnon (UW-Stout), B. Hassanpour (UW-River Falls), and J. Wasik (UW-River Falls), K. Gunn (UWGB), E. Berns-Herboldt (UWGB), M. Holly (UWGB)

Semester Schedule (14 weeks)

- Class starts: Monday, January 23rd
- Spring recess: Monday, March 13th – Friday, March 19th
- Class end: Sun, May 7th
- Final exam week: May 8th – May 12th

Catalog Description

This course will use different forms of agriculture in the context of variable geomorphology, climatology, and hydrology to provide students with a greater understanding of the interconnected processes relevant to agriculture and water management (both quantity and quality) across Wisconsin. Students will be introduced to the nexus of agriculture and water broadly through examples and case studies in Wisconsin. The topics covered will leverage ongoing ag-water quality monitoring and research projects and will engage students with agricultural and water resource management practices used to mitigate the impacts of agriculture on water quality and quantity.

Pre-requisites

Consent of instructors.



Required Text

N/A

Course Materials

Provided by instructors throughout the course via [canvas](#).

Schedule

Pre-trip meeting September 1

Required overnight field trip: Friday, September 9 – Sunday, September 11

Catalog Description

Exploring the Ag-Water Nexus in Wisconsin. Regional Field Trip. 3-day field trip course, September 8-11, 2022. There are no fees for this course. Transportation and lodging will be covered through a grant from the Freshwater Collaborative of Wisconsin.

Pre-requisites: none

Required Text: none

Course Materials

Provided by instructors throughout the course via Microsoft teams and handouts

Course Learning Outcomes

- Students will gain an understanding of and be able to contrast how geological and physiographic conditions influence hydrologic processes in major agricultural areas in Wisconsin
- Students will be able to explain and contrast management activities and water resource issues associated with dominant agricultural systems found in Wisconsin
- Students will gain an understanding of approaches and challenges to assessing the impacts of agricultural activities on surface and groundwater quality and quantity
- Students will gain an understanding of technological, management and policy challenges and solutions to create a more sustainable agricultural-water nexus
- Students will become familiar with career opportunities and grow in confidence to work on sustainable solutions at the nexus of agriculture and water quality/quantity

How to be successful in this course

- **Study the assigned readings and lecture presentations.** You will learn more if you familiarize yourself with the concepts covered before asking for help.
- Actively **contribute to the learning activities** (Labs, Discussions, quizzes, “raise your hand”)
- **Complete your assignments on time** (Do not procrastinate).
- **Attend office hours for questions. Office hours will be held MTWTh 9:45 am – 10:45 am CST. Attempt to solve problems on your own as much as you can before attending office hours.**
- [Expectations When Taking an Online Course](#)



Communication policies

- Announcements, handouts, supplemental readings, assignments, and grades will be posted on the course's DLE ([canvas](#)).
- If you have a question about a grade, please reach out to the instructors. **If you send an email, please identify yourself by your full name and the course identification number.**
- For emails, the instructors will do their best to respond within 24 hours during work-week, and 48 hours on weekends. For questions regarding help on assignments, the instructors will respond within 48 hours.

Learning environment

To provide a stimulating and effective learning environment, everyone is expected to follow shared codes of conduct. To foster fruitful discussions, we should all strive to create an environment of mutual respect. All-in class, field, and group work interactions should be civil, respectful, and supportive of an inclusive learning environment for all students. If you have any concerns about classroom participation or classroom dynamics, I encourage you to speak with me, the Department chair, or your advisor. You may also share your concerns with the University at <https://www3.uwsp.edu/dos/Pages/resources.aspx>.

Academic Integrity

Ethics and Academic Honesty Policy: When you choose to take a course with an instructor, we enter an ethical contract with each other. We should assume that I will design course activities and act in good faith to help you learn, and that you, as the student, will complete the course work yourself and to the best of your ability. That means that all course assignments should reflect your own, independent work. **I am obligated to refer any incidences of plagiarism or cheating, including failing to appropriately cite source materials, representing the work of other students as your own, or submitting work written for previous courses in this course, to the Dean of Students office for disciplinary action.** To avoid any problems, please make sure that you appropriately cite all information you use in course assignments, and that you complete all individual course work independently. If you are unsure of how to cite your information or what requires citation, I and others are here to help! For more information, please refer to the text of UW System's Academic Integrity Policy:

http://docs.legis.wisconsin.gov/code/admin_code/uws/14/ .

Disability Resource Center:

Consistent with federal laws and the policies of the University of Wisconsin, it is the policy of UW-Stevens Point to provide appropriate and necessary accommodations to students with disabilities. If you require any academic accommodation due to a disability, please contact the Disability Resource Center (DRC) Director (phone: 715-346-3365; email: drc@uwsp.edu; website: <https://www.uwsp.edu/disability-resource-center/>) to register and/or request services. If you have already established accommodation through the Disability Resource Center, please communicate your approved accommodation with me at your earliest convenience so we can discuss your needs in this course.



Changes to Syllabus

Instructor reserves the right to modify syllabus and assignments as needed based on faculty, student and/or environmental circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class.

Student Resources

If you have a concern or need help addressing any issues, including academic performance, health and social problems, financial and food resources, housing problems, personal safety, **do not hesitate to approach the instructor.** Point Cares, and there are a variety of campus resources that you can access to help get the support you need (<https://www3.uwsp.edu/dos/Pages/stu-personal.aspx>).

Course Organization

Instruction organization

- Primary delivery of course content and instructions will be completed via [Canvas](#); Materials are organized in modules. Students have the responsibility to study the materials.
- Participation in course learning activities is strongly encouraged. A discussion page title “Raise your hand” is included in each module. Use is to ask questions. Respond to questions asked as much as possible.

Learning assessment

Letter-grade scale

Grade	Percent
A	>92.00
AB	89.00-91.99
B	82.00-88.99
BC	79.00-81.99
C	72.00-78.99
CD	69.00-71.99
D	59.00-68.99
F	<59.00

Assessment Schedule

Assignment type	Number of assignments		Percent	
	Undergrad	Graduate	Undergrad	Graduate
Quiz	13	13	25%	20%
Discussion	6	6	20%	15%
Paper (WE)	0	1	0%	15%
Exam (Superquiz)	2	2	40%	40%
Final reflection	1	1	15%	10%
Total			100%	100%



Quizzes

- Short Learning **Unit-targeted quizzes** to form learning.
- Quizzes will be submitted individually on [Canvas](#).

Discussions

- You will be given a **prompt to reflect on a topic covered in the corresponding module. You will also respond to at least one peer**. When responding to a peer, please call on the name of the peer you are responding to.
- You will be required to maintain a **civil atmosphere** in the discussion environment.

Writing assignment (Paper) – Graduate students only

- **Graduate students** enrolled in the course will complete a WE assignment for 15% of their grade
- Writing assignments should be **clearly typed**, and should contain:
 - **A descriptive title (at the beginning of the actual paper, in addition of a title page)**
 - **An introduction**
 - **A body**
 - **A conclusion**
 - The paper will include a **title page** (title of paper, course number and name, name of students, semester) and a **reference list** of cited publications. The title page and reference list must be on **separate pages and do not count toward the required number of pages**.
- Assignment will be submitted on [Canvas](#).

Exam

- Two exams will be given to assess learning.
- Exams will be in the form of quizzes and will be completed individually on [Canvas](#).
- Student with a conflicting examination schedule or an unusual circumstance should arrange to take a substitute examination.

Final Reflection

A final reflection in the form of a short essay will be collected at the end of the course. This reflection will help assess learning acquired on the course and help improve the quality of the course.

Late assignment submission

- Assignments and due dates are listed on the course schedule and will be confirmed in class.
Assignments are due at the end of the due date (11:59 pm).
- Late assignments will be accepted in special circumstances; please **be aware that scores will drop by 10% for each day late**, except:
 - You have asked for an extension (**via email**) more than **12 hours before the due deadline**.
 - You have obtained an official note from a doctor or the registrar.



Tentative Schedule (changes may occur throughout the semester at the discretion of the instructor)

Date	Day	Module	Due
1/23/2023	Mon	General WI 1- Introduction of the course; 2- Geology and Geomorphology; Groundwater Quality & Quantity 3- Water cycle in the context of geomorphic/ag setting; climate change impacts on water budget; 4- Wisconsin Agriculture and Ag. systems; 5- Dairy systems; 6- Water Chemistry / soil and water quality; 7- N and P impacts to surface water	
1/25/2023	Wed		
1/27/2023	Fri		Quiz 1
1/30/2023	Mon		
2/1/2023	Wed		
2/3/2023	Fri		Quiz 2
2/6/2023	Mon		
2/8/2023	Wed		
2/10/2023	Fri		Quiz 3, Discussion 1
2/13/2023	Mon		NE Agriculture History, Water Quality; Karst aquifer issues; Edge of field practices; Watershed modeling/decision support tools
2/15/2023	Wed		
2/17/2023	Fri	Quiz 4	
2/20/2023	Mon		
2/22/2023	Wed		
2/24/2023	Fri	Quiz 5, Discussion 2	
2/27/2023	Mon	SE Agriculture History, Water Quality; NRCS 590 Nutrient Management Standard; Nutrient cycling in soils/agroecosystems; Watershed modeling (connect it to P-Index/590); Cold season nutrient transport processes	Superquiz 1 (exam 1)
3/1/2023	Wed		
3/3/2023	Fri		Quiz 6
3/6/2023	Mon		
3/8/2023	Wed		
3/10/2023	Fri		Quiz 7, Discussion 3
3/13/2023	Mon	Spring Break	
3/15/2023	Wed		
3/17/2023	Fri		
3/20/2023	Mon		
3/22/2023	Wed		
3/24/2023	Fri		
3/27/2023	Mon		
3/29/2023	Wed	SW Agriculture and Land use History of the Driftless; 2 - Geology and Geomorphology of the Driftless; Farming in the Driftless; SWIGG study; Overview of Grazing System and Water Quality	
3/31/2023	Fri		Quiz 8
4/3/2023	Mon		
4/5/2023	Wed		
4/7/2023	Fri		Quiz 9, Discussion 4
4/10/2023	Mon	Central Agriculture History, Water Quality; Water use in the Central Sands; Overview of water quality considerations in potato/vegetable production; Fate of contaminants from compost facilities	
4/12/2023	Wed		
4/14/2023	Fri		Quiz 10
4/17/2023	Mon		
4/19/2023	Wed		
4/21/2023	Fri	NW Agriculture History, Water Quality; 2- Are we talking forestry? Cottage country; Records of	
4/24/2023	Mon		
4/26/2023	Wed		
4/28/2023	Fri		Quiz 11, Discussion 5



5/1/2023	Mon	environmental change in agricultural settings; Nitrate in Western WI groundwater	
5/3/2023	Wed		
5/5/2023	Fri		Quiz 12, Discussion 6
5/8/2023	Mon	Finals	Superquiz 2 (exam 2)
5/10/2023	Wed		
5/12/2023	Fri		
5/15/2023	Mon		Grad. Paper
5/17/2023	Wed		
5/19/2023	Fri		Final reflection