

Fisheries Research

Course: Water 483/683, Fall 2022, 3 credits

Description: Introduction to field and laboratory fishery research. Principles of designing research projects, testing hypotheses, sampling fish, analyzing fishery data, reporting results in both written and oral forms, and defending research.

Lectures: Wednesday and Friday, 11:00-11:50, TNR 252

Laboratory: Wednesday, 2:00-3:50, TNR 351

Instructor: Joshua K. Raabe, PhD

Contact Information: jraabe@uwsp.edu, TNR 174, 715-346-2689 (office phone)

Office hours: Monday, 11:00-12:45; by appointment (e-mail first); or just stop by my office whenever door is open

Goal: My overall goal is for students to increase their understanding of the fisheries research process and to further develop their writing and oral communication skills.

Objectives: By the end of the semester, students should be able to:

1. Design a fisheries research project with appropriate methods and analyses
2. Critique and discuss scientific papers
3. Prepare a scientific paper in the format of a professional fisheries journal
4. Prepare and present an oral presentation on the topic of their research in the format of a scientific meeting
5. Orally defend research in the format of a thesis defense

Communication: Students are expected to routinely check their UWSP e-mail and Canvas course site for updates and materials.

Canvas: <https://uwstp.instructure.com/courses/523135>

Textbooks: 1. Zale, A.V., D.L. Parrish and T.M. Sutton, editors. 2012. Fisheries Techniques, Third Edition. American Fisheries Society, Bethesda, Maryland.
2. Jennings, C.A., T.E. Lauer and B. Vondracek, editors. 2012. Scientific communication for natural resource professionals. American Fisheries Society, Bethesda, Maryland.

Additional Materials: Additional lecture and lab materials will be available on Canvas. Text and handouts are to be read *prior* to attending lecture and lab.

Grade Breakdown: Grades will be determined based on each student’s total points from assignments at the end of the semester. The table below shows point totals broken down by category and associated grades with +/- determinations.

Category	Points	Grade	Points	Percentage
Paper				
Title & Objectives	15	A	744 - 800	93 - 100.0%
Introduction	40	A-	720 - 743	90 - 92.9%
Methods	40	B+	696 - 719	87 - 89.9%
Results	40	B	664 - 695	83 - 86.9%
Discussion	40	B-	640 - 663	80 - 82.9%
Abstract	15	C+	616 - 639	77 - 79.9%
Final	150	C	584 - 615	73 - 76.9%
Peer Reviews	40	C-	560 - 583	70 - 72.9%
Group:				
Research Proposal	40	D+	536 - 559	67 - 69.9%
Scientific Paper	60	D	480 - 535	60 - 66.9%
		F	≤ 479	≤ 59.9%
Assignments	100			
Activities / Discussions	40			
Oral presentation	100			
Oral defense	80			
Total	800			

Research Paper (340 points): Each student will write a scientific research paper that examines a fisheries or related dataset. The paper will be edited as if it were submitted to a scientific, peer-reviewed journal. Each portion of the manuscript will be turned in separately over the course of the semester. In addition to a grade for each section, detailed feedback will be provided so the student can incorporate those comments into the final version. The paper will be graded on its completeness of thought, clarity of writing, organization and formatting, appropriateness of data analysis, interpretation of results, depth of discussion, use of literature, and that the student challenged themselves.

Research Paper - Peer Reviews (40 points): Students will be assigned a partner (or group of 3) to discuss projects and review each other’s research papers during the semester. This provides an opportunity to improve papers, learn about other projects and providing constructive feedback, and help each other through the process. Grades will be based on timeliness (i.e., submit draft and review by deadline), review thoroughness, and student evaluations of the quality of the review.

Oral Presentation (100 points): Each student will give an oral presentation on their research paper. I will use a modified American Fisheries Society criteria for evaluating oral presentations, including organization, clarity of visual aids, verbal presentation, and length. The critique will be returned to the student for use in preparing future presentations.

Oral Defense (80 points): During the final exam week, each student will orally defend their research with me during a 30-minute period that resembles a Master's thesis defense.

Group Assignments (100 points): Group assignments will be a research proposal on a topic chosen by the group to gain experience with study and sampling design and grant writing, and a short research paper on brook trout data collected from the Little Plover River to gain experience with analyses and scientific writing.

Individuals Assignments (100 points): Assignments will be related to lecture topics and analyses to provide practical experience in the use and interpretation of fishery statistics.

Activities & Discussions (40 points): As upper level undergraduate and graduate students, I expect you to be prepared and actively participate in lectures and laboratories. Activities and discussions will be related to writing, analyses, and lecture topics to provide practical experience in the use and interpretation of fishery statistics and to the scientific writing process. Often attendance will be required to receive these points, but accommodations can be made if you let me know ahead of time. Please keep in mind that the quality of your educational experience in this course will be directly related to the amount of time you invest in preparation and your overall involvement in class.

Due Dates / Late Policy: Research paper and other assignments can be submitted online until midnight on the due date. I will state due dates on each assignment and on Canvas. *All assignments will be 10% for each full day late* (e.g., 2 points/day for 20 point assignment), so please turn in assignments in a timely manner to avoid point reductions or a score of zero.

Research Paper – Assistance: In addition to working with me and your peer review partner(s), the The Writing Lab in the Tutoring-Learning Center (TLC) offers free one-on-one help with papers at any point in the writing process, from outlining to checking a completed paper before submission. The writing tutors are UWSP students who have done well in their classes and who are here to share their successful writing habits to help others succeed. Drop in room LRC 018 or call (715) 346-3568 for an appointment.

<http://www.uwsp.edu/tlc/Pages/writingReadingTutorials.aspx>

Classroom Environment: I want everyone to feel comfortable and willing to participate in this course and will work to keep a positive classroom environment. Please contact me if you have any issues with a classmate or me. In addition, UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, they developed a set of expectations for all students and instructors, known as the *Rights and Responsibilities* document:

<http://www.uwsp.edu/dos/Documents/Right%20and%20Responsibilities.pdf>

Student Feedback: To help improve this course and my teaching throughout the semester, I will ask for feedback and you can always talk to or email me. You also can provide *anonymous* feedback through an online survey (link below and also on Canvas). I will try to incorporate all constructive, well-stated suggestions and critiques. I also greatly appreciate completed UWSP course evaluations at the end of the semester.

<https://www.surveymonkey.com/r/FWFRKK7>

Academic Integrity: I expect all students to strictly adhere to the high level of conduct and academic integrity at UWSP. All forms of plagiarism, cheating, and academic dishonesty are prohibited; violations will follow UWSP procedures. I reserve the right to use plagiarism software on assignments. The minimum penalty for a violation of academic integrity is failure (score of zero) of the assignment, but penalties can be stricter. For more information, please see the UWSP “Student Academic Standards and Disciplinary Procedures” section of the *Rights and Responsibilities*, Chapter 14:

https://www.uwsp.edu/acadaff/Orientation/AcademicMisconductRulesAndProcedures_booklet.pdf

Disability Policy: If you are a student with disabilities, please contact me at the beginning of the semester. We will work together to accommodate any disabilities according to UWSP policies and the Americans with Disabilities Act (ADA), a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities. Students must register with UWSP Disability and Assistive Technology Center and provide proper documentation. For more information, please visit the link below and the Disability and Assistive Technology Center, located on the 6th floor of the Learning Resource Center (the Library). <http://www4.uwsp.edu/special/disability/>

Safety Procedures: *Medical emergency:* call 911 or use the hallway red emergency phone, offer assistance if trained and willing, guide emergency responders to victim. *Tornado warning:* move to the second floor hallways and remain until told otherwise. *Fire alarm:* calmly evacuate building, meet in courtyard near library stairs, notify me or emergency command personnel of any missing individuals. *Active shooter:* Run/Escapes, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders. More information: www.uwsp.edu/rmgt

Health situations including COVID-19: The health and safety of our students, faculty and staff are top priorities. Please monitor your health, including your mental health. If you are not feeling well or may be contagious, please do not come to class, instead rest up and if needed reach out to the appropriate medical personnel.

As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.

All students, faculty and staff will follow the UWSP policies and guidelines pertaining to the COVID-19. See: <https://www.uwsp.edu/coronavirus/Pages/default.aspx>, or email covid@uwsp.edu.

Fisheries Research

This is a **TENTATIVE** lecture & lab schedule that may change for a variety of reasons. I will inform the class of any changes. Please watch Canvas for paper and assignment due dates. Book chapter readings are from Fisheries Techniques (Tech.) and Scientific Communication (Comm.). ** Plan to sample the Little Plover River.

Week	Lecture		Laboratory		Readings	Paper	
	Wednesday	Friday	Wednesday	Friday			
4-Sep	Intro & Research	Designs	Research & Designs		Tech. 1 & 2	-	
11-Sep	Designs, Titles	Stats & Models	Stats & Models		Tech. 2, Comm. 3	-	
18-Sep	Writing Basics, Intros	Habitat	Writing Basics		Tech. 4, Comm. 4 & 5	Title, Object, Bib	
25-Sep	Size Structure & Body Condition		**Little Plover		Tech. 14	Introduction	
2-Oct	Age & Growth		Methods, Peer Review		Tech. 15, Comm. 10 & 13		
9-Oct	Abundance & Tagging		Peer Review		Tech. 11 & 18	Intro & Methods - Peer Rev	
16-Oct	Mortality, Movement & Migrations		Tagging		Tech. 11 & 18	Methods	
23-Oct	Stocking Evaluations		Results		Comm. 6 & 7		
30-Oct	Creel & Commercial Surveys		Surveys - Feiner		Tech. 19, 20, & 21	Results	
6-Nov	Diets & Bioenergetics		Diets, Discussions		Tech. 16		
13-Nov	Genetics in Fisheries		Genetics, Abstract		Comm. 11		
20-Nov	Work Session	<i>No Lecture - Holiday</i>	<i>No Lab - Holiday</i>			Discussion	
27-Nov	Selectivity & Catchability, Electrofishing		Electrofishing, Presentations		Tech. 2 & 8, Comm. 11	Abstract	
4-Dec	Active & Passive Gears		Peer Review, Work Session		Tech. 6 & 7	Final - Peer Review	
11-Dec	Student Presentations	<i>No Lecture - Finals</i>	Student Presentations		-	Final	
18-Dec	Oral Defenses of Research Papers						Defense