

## Syllabus

**Course:** NRM552 Fisheries Management (3 credits)  
**Semester:** Winter 2021  
**Lecture:** Online (asynchronous)

**Instructor:** Dr. Carl Ruetz, Annis Water Resources Institute (AWRI)  
**Office/Telephone:** 136 Lake Michigan Center (Muskegon)/616-331-3946  
**E-mail:** [ruetzc@gvsu.edu](mailto:ruetzc@gvsu.edu)  
I will respond to e-mails within 24 hours during weekdays (usually faster);  
I check e-mail intermittently on the weekend but may not respond until  
Monday morning

**Office Hours:** Virtual by appointment  
Available 1:00 – 2:00 PM, Tuesday (e-mail to schedule); or weekdays by  
appointment (depending on my availability)

**Technology:**

- Online instruction environment will be in Blackboard
- You will need to be able to open PDF files
- Documents should be submitted as PDF files
- Excel for data analysis
- Statistical analysis software: graduate students are expected to use R in most cases; undergraduates should be able to use Excel in most cases
- Information on self-directed Blackboard Orientation with links to additional help documents is available from the “Online Education” website (<https://www.gvsu.edu/online/are-you-ready-for-online-learning-5.htm>).
- For technology-related questions, please contact the Help Desk at [helpdesk@gvsu.edu](mailto:helpdesk@gvsu.edu) or 616-331-2101
- Please contact me if you have any questions or concerns

**Texts:** There is no required textbook

**Prerequisites:** BIO362 and STA215; or graduate standing

**Goals & Objectives:** This course is an introduction to the principles of fisheries science and management. The focus is on the process and tools for managing fish populations and their habitats as well as emphasizing quantitative and sampling methods for fisheries assessment. The course objectives are that students will be able to do the following at the end of this course:

1. Describe principles and techniques of fisheries management (all students)
2. Apply basic strategies to manage wild fish populations (all students)
3. Summarize scientific papers and concepts related to fisheries management (all students)
4. Apply appropriate quantitative analyses to complete fisheries assessments (graduate-level objective)
5. Synthesize knowledge on a topic related to fisheries management in an oral presentation (graduate-level objective)

**Virtual Lecture Schedule:**

This schedule may be modified by the instructor during the semester.

Week	Date	Learning Module
1	1/19-1/24	Introduction to Fisheries Management <b>MLK Jr. Day (1/18): no class</b>
2	1/25-1/31	Management actions: regulations & stocking <b>Last day to add/drop classes (1/26)</b>
3	2/1-2/7	Statistics in fisheries management: hypothesis testing & model selections
4	2/8-2/14	Condition: length-weight relationships, condition factor, & relative weight
5	2/15-2/21	Age & growth
6	2/22-2/28	Estimating mortality rates
7	3/1-3/7	<b>Virtual Midterm Exam</b>
8	3/8-3/14	Abundance estimation: depletion & mark-recapture methods <b>Break Day (3/10): no class</b>
9	3/15-3/21	Annual (Virtual) Meeting of the Michigan Chapter of the American Fisheries Society (3/16-3/17)
10	3/22-3/28	Population growth & harvest
11	3/29-4/4	Recruitment <b>Break Day (4/1): no class</b>
12	4/5-4/11	Yield-per-recruit model <b>Drop with a "W" grade deadline (4/9)</b>
13	4/12-4/18	Great Lakes fisheries management: a case study
14	4/19-4/25	To be determined
15	4/26-5/1	<b>Final Exam Week: Graduate Student Presentations</b>

*Recitation*—Based on student availability (determined at the beginning of semester), we will have a synchronous recitation session each week. The sessions will provide a forum to answer questions about quantitative assignments (sessions will be optional) or discuss a relevant paper (required for graduate students). The instructor will indicate at the beginning of each learning module if we will have a recitation session and whether it is optional or required. Once the time slot is determined (at the beginning of semester), please hold it open for the entire semester.

**Grading & Evaluation:** Grades will be calculated as a percentage of the *total points possible* (e.g., 93-100% = A, 90-92.9% = A-, 88-89.9% = B+, 82-87.9% = B, 80-81.9% = B-, etc). As a general policy, grades on all work are considered final (i.e., they will NOT be changed) 2 weeks after the grade is posted. *Note:* the actual number of points in the course may differ from the table below if assessments are adjusted (e.g., added or dropped) by the instructor.

<b>Assessment</b>	<b>Points</b>
Virtual Midterm Exam	50
Weekly Assignments (~13)	10-20 each
Weekly discussion (14)	10 each
Facilitation ( <i>Grad only</i> )	20
Reference Set ( <i>Undergrad only</i> )	60
Presentation ( <i>Grad only</i> )	50
Current Event ( <i>Grad only</i> )	10

**The midterm exam MUST be done individually.** Working with others or sharing answers on the midterm is considered *academic dishonesty* (see Policies & Academic Integrity) and may result in failure of the course. The midterm exam will be open-book and open notes.

*Weekly Assignments*—These assignments will emphasize key points in lectures/readings and emphasize quantitative techniques. You may discuss these assignments with other students (including working on problems together), but your “write-up” must be done individually. Additionally, if you have substantive discussions with other students on the assignment (e.g., work together on particular problems), then that should be clearly indicated in your write-up.

*Weekly Discussion*—This course will actively engage students in discussion as a critical component of each learning module, providing students an opportunity for active reflection, critical analysis, and sharing. Most discussion will be via the discussion forum on blackboard, although we may have synchronous, virtual discussions. Students are expected to demonstrate a professional attitude, time management skills, and mastery of scientific concepts and knowledge. Online student participation is critical for optimum learning. “Flaming” or other derogatory/inappropriate comments, messages, or discussion posts are unprofessional and unacceptable. Please be kind to your fellow students and instructor.

*Facilitation* (graduate-level only)—Each graduate student will be expected to facilitate one paper discussion on a peer-reviewed publication. The student will work with the instructor to select a paper on an appropriate topic. Students will sign up to be facilitators at the beginning of the course.

*Reference Set* (undergraduate-level only)—Undergraduate students are required to compile an annotated bibliography that contains **15** references from the primary literature (i.e., peer-reviewed journal articles) on a topic that relates to fisheries management. The assignment should be typed, single spaced, and have 1-inch margins. References should follow the EXACT format used by *Transactions of the American Fisheries Society*. You will be penalized if you do not follow the appropriate format! For each reference, the purpose of the article should be stated in one sentence and another sentence should summarize its main findings as it relates to your topic (i.e., annotation). **Your topic must be approved by the instructor before you begin.**

The complete *Reference Set* is due **April 18**. In addition to a title and 15 references with annotations, students should write a 1-page essay (double spaced) summarizing what was learned from the assignment and how it pertains to class (i.e., based on all of your references). The grading rubric for the complete Reference Set will be: 2 points for title, 1 point/reference, 1

point/annotation, 8 points for format, 10 points for essay, and 10 points for writing style/grammar (for a total of 60 points).

*Presentation* (graduate-level only)— Each student will give a final presentation on a topic related to fisheries management. This presentation should be delivered as a lecture. **Your topic must be approved by the instructor.**

*Current Event* (graduate-level only)—Each graduate student will be expected to post one current event related to fisheries management and facilitate a discussion on the topic. This discussion will take place as part of the Weekly Discussion on the blackboard discussion forum. Students will be expected to post a brief summary of the current event, highlighting how it relates to class, as well as provide a weblink (or electronic copy of article) regarding the current event, provide prompts to guide the discussion, and respond to questions/comments when appropriate. Students will sign up at the beginning of the course to determine which week they will post their current event.

**Course Structure/Late Assignments/Absences:** Learning modules will be posted at the beginning of each week (typically by Monday morning). All assignments will be due 1-2 weeks later on Sunday at 11:59 PM (unless indicated otherwise). We will occasionally have synchronous meetings (see *Recitation*). Whether a recitation session will be optional or required will be indicated at the beginning of the week. If you are unable to attend, then you should contact the instructor prior to the scheduled date to make alternative arrangements.

Students are allowed to submit one late assignment without a penalty (must be submitted within 12 hours of time due). If the assignment is more than 12 hours late or a student has more than one late assignment, then the assignment will be penalized at least 10% per day. This late assignment policy does NOT apply to online discussion or the virtual midterm exam.

**Special Needs:** If a student needs accommodation due to a learning, physical, or other disability, then the student must present a memo to the instructor from Disability Support Resources (DSR), indicating the existence of a disability and the suggested reasonable accommodation. If you have not already done so, please contact the DSR office (215 The Blue Connection) by calling 616-331-2490 or email to [dsrgvsu@gvsu.edu](mailto:dsrgvsu@gvsu.edu). Please note that instructor cannot provide accommodations based upon disability until the instructor has received a copy of the DSR issued memo. All discussions will remain confidential.

**Policies & Academic Integrity:** This course is subject to the GVSU policies listed at [www.gvsu.edu/coursepolicies/](http://www.gvsu.edu/coursepolicies/). Students are expected to follow GVSU's Student Code ([www.gvsu.edu/studentcode/](http://www.gvsu.edu/studentcode/)).