Biology/Water 386/586: Fish Culture (Fall 2022)

Instructor: Dr. Chris Hartleb

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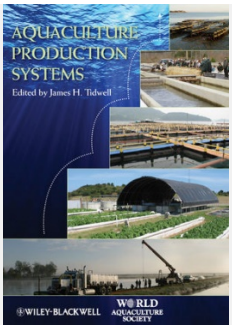
Office Hours: Virtual using email, Zoom & Canvas for support



Required course materials: Tidwell, J.H. (ed.) 2012. Aquaculture Production Systems. Wiley-Blackwell Publ. [Available at Text-Rental]. Other resources will be made available to you via Canvas.

Course description: This course focuses on the culture of fish in various production systems from extensive to intensive. This includes understanding a highly orchestrated combination of complex biological, chemical, environmental, mechanical, and managerial systems organized to produce fish. Class meetings take place in Canvas using an asynchronous format comprised of voice-over PowerPoint, supplemental readings, student analyzed demonstration lab activities, virtual field trips, and a slogan project. Discussions will take place in Canvas as needed.

Course learning outcomes:
Upon successful completion of this course, you should be able to –

1. Recognize the multiple levels of complexity at which biological systems operate from organism to ecosystem and be able to explain the emergent properties and process characteristic of each level.
2. Demonstrate proficiency in the methods and philosophy of science, including articulation and application of the Scientific Method, collection and analysis of biological data and application of professional ethics.
3. Articulate the application of biological sciences to meet the needs of society, including basic research, stewardship of biodiversity, human health, and entrepreneurial innovation.

Attendance & participation: The course is online and asynchronous so you should be able to keep the schedule and access the course anytime. It is imperative that we keep to the schedule so that planned exams and lab reports cover material we have already completed. The first time a la report is late, you will receive a warning. After that, a 20% loss in value will be assessed for each day a lab report is late.

Supplemental Readings:

Required additional readings will be assigned throughout the semester. Supplemental readings are provided in Canvas and are associated with lectures that cover the topic. Material in the supplemental readings will be partially covered in PowerPoint lectures and will be fully covered on the exams. If you have questions about the material in the articles, post the questions in Canvas or email the instructor.

Lecture Outline:

Week of:	Lecture Topic	Chapter in Text	Lab Exercise
Introduction			
9/6	History, value & markets	1, 2	
Water & Culture Methods			
9/12	Water sources & quality	3	Pumps
9/19	Water quality & effluents	3	Aeration & water quality
9/26	Ponds	10	Pond soil
10/3	Flow-through (raceways)	9	Mechanical filtration
10/10	Recirculating (recycle)	11	**Exam**
Biology & Products			
10/17	Aquaponics	14	Chemical filtration
10/24	Cage, net pens & PAS	6, 7, 13, 15	Virtual trip: NADF
10/31	Spawning & reproduction		Virtual trip: Trout farm
11/7	Nutrition & stocking		Virtual trip: Floating Gardens
Business & Value			
11/14	Harvest & transport		**Exam**
11/21	Processing & products	*Thanksgiving*	Economics: Survey
11/28	Sustainability & conservation		Fish disease modules
12/5	BMP, biosecurity & HACCP		Slogan presentations
12/12	Economics		

Grading:

Three Exams	Exam 1 (**October 12**, 100 pts)	100 pts = 20%
	Exam 2 (**November 16**, 100 pts)	100 pts = 20%
	Exam 3 (Final exam (**December 19,** 100 pts)	100 pts = 20%
Lab Exercises	(7 @ 15 pts each)	105 pts = 24%
Project	(1 @ 100 pts; Due **December 5**)	100 pts = 8%
Field Trips	(3 @ 27.67 pts each)	83 pts = 8%
Total	(300 pts for exams; 288 pts labs, project & field trips)	588 pts = 100%

Discretionary points: Points may be added or subtracted from your final course grade based on effort, improvement, participation, alacrity, and attitude.

Grade Distribution (in %):

A = 100-94	B- = 83-80	D+ = 69-67
A- = 93-90	C+ = 79-77	D = 66-60
B+ = 89-87	C = 76-74	F = <60
B = 86-84	C- = 73-70	

Lab Exercises:

You will be required to complete 7 lab exercises. Demonstration videos and data will be provided. You will be responsible for data analyses, interpretation, & summaries submitted in a neat, accurate, thorough, and easy to follow report. Reports are due one week after the exercise is assigned. Credit can be earned with exercise accuracy, proper calculations, thorough analyses and explanations, and neatness.

Project:

Each student will be required to give a presentation on **December 5** showing and describing **three** slogans representing the Wisconsin Aquaculture/Aquaponics Industries. Details to follow.

Field Trips:

Three virtual field trips to fish culture facilities are scheduled during the semester. Assignments associated with each virtual field trip will be provided. Complete, accurate and thoroughly described reports should be developed based on the virtual tour and questions provided

Rules & Grades:

Lab exercises will be due one week from completion in class. Two points (-2) will be subtracted each day for late submissions. Only university approved absences, accompanied by appropriate evidence (see undergraduate catalog), will be accepted if you miss the exams. A make-up exam must be taken within 3 class days of the actual exam date. Contact the instructor before the exam if there may be a problem. Exams will be graded within one week of the exam date. Discussion regarding grades or grading practices will only be conducted during office hours or appointments; this ensures privacy and confidentiality.

Academic integrity: You are responsible for the honest completion and representation of your work and for the respect of others' academic endeavors. Any act of cheating, plagiarism, or academic misconduct is subject to the penalties outlined in UWS Chapter 14: https://www.uwsp.edu/dos/Documents/UWSP14-Final2019.pdf

Students with disabilities: First see Student Disability Services and complete the necessary paperwork. Then, contact me so that arrangements can be made for PowerPoint presentation creation and delivery, critique development, and summary narrative completion.

Technology Requirements

Minimum student technical skills –

In this course you will be expected to complete the following types of tasks:

- Communicate via email & Canvas
- Complete basic internet searches
- Download and upload documents to the LMS
- Read/view documents online
- Create and view voice-over PowerPoints
- Participate in online critiques/reviews
- Upload documents to a Dropbox
- Participate in asynchronous online discussions

Technical assistance -

If you need technical assistance at any time during the course or to report a problem with Canvas you can:

- Visit with a Student Technology Tutor
- Seek assistance from the IT Service Desk (Formerly HELP Desk)
    - IT Service Desk Phone: 715-346-4357 (HELP)
    - IT Service Desk Email: techhelp@uwsp.edu
- Contact the Center for Inclusive Teaching and Learning (CITL)
    - CITL Phone: 715-346-2945
    - CITL Email: citl@uwsp.edu

Connectivity and hardware requirements -
Minimum connectivity and hardware requirements are described here: https://www3.uwsp.edu/canvas/Pages/default.aspx It also includes access to and use of a microphone.

Course Accessibility

Inform your instructor of any accommodations needed -

If you have a documented disability and verification from the Disability and Assistive Technology Center and wish to discuss academic accommodations, please contact the instructor as soon as possible. It is the student's responsibility to provide documentation of disability to Disability Services and meet with a Disability Services counselor to request special accommodation before classes start.

The Disability and Assistive Technology Center is located in 609 Albertson Hall and can be contacted by phone at (715) 346-3365 (Voice) (715) 346-3362 (TDD only) or via email at datctr@uwsp.edu

Statement of Policy -

"UW-Stevens Point will modify academic program requirements as necessary to ensure that they do not discriminate against qualified applicants or students with disabilities. The modifications should not affect the substance of educational programs or compromise academic standards; nor should they intrude upon academic freedom. Examinations or other procedures used for evaluating students' academic achievements may be adapted. The results of such evaluation must demonstrate the student's achievement in the academic activity, rather than describe his/her disability."

Further information about the university's web accessibility policy can be found here: https://www.uwsp.edu/accessibility/Pages/default.aspx

If modifications are required due to a disability, please inform the instructor and contact the Disability and Assistive Technology Center in 609 ALB, or (715) 346-3365.

Instructor Availability

I will attempt to respond to student emails within 24 hours. If you have not received a reply from me within 24-hours, please resend your email.

If you have a general course question (not confidential or personal in nature), please post it to the Course Q&A Discussion Forum found on the course homepage. I will post answers to all general questions there so that all

students can view them. Students are encouraged to answer each other's questions too. I will attempt to grade written work within 72-hours; however, longer written assignments may take me longer to read and assess.

Student Assessment

Grading Policies -

Graded course activities may include exams, lab reports, virtual field trip reports, & the slogan project.

Participation - Students are expected to participate in all online activities as listed on the course calendar. Student participation will be monitored via the LMS time/date stamp and online access occurrence on discussions, chat sessions, and assignment submission. Students should access online content weekly throughout the course.

Complete Assignments -

All assignments for this course will be submitted electronically through Canvas unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from instructor before the due date. Extensions will not be given beyond the next assignment except under extreme circumstances.

Viewing Grades in Canvas -

Points you receive for graded activities will be posted to the Canvas Grade Book. Click on the Grades link to view your points. The instructor will update the online grades each time a grading session has been completed - typically 7 days following the completion of reports and exams. You will see a visual indication of new grades posted on your Canvas home page under the link to this course.

Student Recording and Sharing Class Lecture

Lecture materials and recordings for [Biology/Water 386/586] are protected intellectual property at UW-Stevens Point. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or share lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.