

AQUA-1: Intro to Aquaculture

Course Information

Semester & Year: Spring 2025

Course ID & Section #: AQUA-1- V9646

Instructors Name: Jasmine Iniguez

Day/Time of required meetings: Late Start 2/01 ONLINE

Course units: 3

Instructor Contact Information

Office location: SCI 216I

Office hours: In person by appointment or via ZOOM

Phone number: (707) 476-4528

Email address: jasmine-iniguez@redwoods.edu

Social Media: [CR_Aquaculture](#)

Catalog Description

This course provides students with a general understanding of aquaculture: the science and business of culturing and rearing aquatic organisms. Students learn the broad history and current state of the industry. The course will include aquaculture production systems for breeding, growing, and harvesting of various species cultured locally and globally, including finfish, bivalves, crustaceans, and seaweeds. Students explore issues of water quality, nutrition, disease prevention, environmental impacts, and sustainability. This course also covers the current state of aquaculture as an industry, its economic impacts, and its role in global food production.

Course Student Learning Outcomes

1. Identify different systems and techniques for breeding, growing, and harvesting various aquaculture species including strategies for prevention and water quality optimization
2. Discuss past and present issues in aquaculture, analyze legal, social, economics, and environmental context in which the industry operates.

Prerequisites/corequisites/ recommended preparation

None

Required Course Textbook

Aquaculture: Farming Aquatic Animals and Plants, 3rd Edition

Author: John S. Lucas & Paul C. Southgate

Publisher: Wiley-Blackwell

ISBN: 9781119230861

The ebook is made available on Canvas

Aquaculture Production System, 2012

Author: James. H. Tidwell

Publisher: World Aquaculture Society and Wiley Blackwell

ISBN: 9780813801261

eBook FREE access at:

<https://ebookcentral.proquest.com/lib/redwoods-ebooks/detail.action?docID=827051&pq-origsite=prim>

Supplemental References:

Southern Regional Aquaculture Center Fact Sheets: <https://srac.tamu.edu/>

Evaluation & Grading Policy

Grading:

Course Requirements	Percent of Total Grade	Due Date
Exam 1	20	Week
Exam 2	20	Week
Final Exam	20	Week
Research Paper	15	Sunday,
Quizzes	10	Sundays
Discussion Boards	15	Sundays

CR has a set policy for how course percentages convert to grades:

A > 92%; A- 90-92%; B+ 87-89%; B 83-86%; B- 80-82%; C+ 77-79%; C 70-76%; D 60-69%; F

Late Assignments:

Each student is responsible for completing all assignments and activities as specified by the instructor by the date indicated. If you have an emergency (e.g. hospitalization, death in the family, car accident) please notify me as soon as you can if this affects your coursework or attendance. Please contact me immediately if something in the foreseeable future is approaching as well. Be mindful that Discussion Boards and Quizzes will close on the scheduled due date at midnight.

Exam Make-up Policy:

This class will have a total of **three exams (100 points each)**, which make up **60% of your grade!** The course is broken up into three units. These three units make up each exam, which means the exams are not cumulative, but some topics may be repeated, and you may see them on other exams. The final is not cumulative. ***You must have a serious and verifiable excuse to miss a lecture exam. If you have an emergency (hospitalization, family/friend death, car accident, quarantine) please notify me as soon as you can if this affects your ability to take the exam on the scheduled date.*** Please contact me 12 hours in advance if something in the foreseeable future is approaching as well. If you do not notify me and or do not provide a legitimate excuse an automatic 10% will be taken from your makeup exam.

Netiquette

While we are not communicating face-to-face, please remember to be respectful. This includes opinions and thoughts that are made by your peers on the discussion boards. We should all be supportive and encouraging to the difference of opinion of others – as we can grow from this! We should all support each other in the course to achieve our goals and be successful. An online classroom will still be a safe place for your peers just as much as an in-person setting should be.

Discussion Boards

Each Monday you will have a new weekly discussion board to post on. You will have to read or watch the content that is provided on the discussion board and answer the discussion board questions. The discussion posts must be done by **Friday of the given week at 11:59pm**. You will then need to respond to another classmate's post on the discussion board. These **responses post must be done by Sunday of the given week at 11:59 pm**. Your initial post will be graded by the thoughtful, detail, and effort that was taken into the discussion and your responses post will be graded by effort and detail. These discussion boards are worth **15% of your grade**.

- **Initial post:** Must be done on Fridays. You will be graded on the following: detail, insight, contribution, originality, and thoughtfulness.
- **Response Post:** Due on Sundays at midnight. Please be engaged with your peers. Posts with text verbiage such as "OMG and LOL" will not be accepted. Please try to engage and avoid posts such as "Nice work" or "That makes sense, thanks for sharing". These posts with little engagement and thoughtfulness will not receive credit

Quizzes:

Quizzes will be made available on Canvas that will have questions corresponding with the given week's lectures. Please refer to textbook readings for further clarification on the content. **Quizzes will be due 11:59pm on Sundays. You will have two attempts at each quiz, and the highest grade is kept. Quizzes are worth 10% of your grade!**

Assignments:

You will have 1 main assignment in this class. See Canvas Assignment for more details

Aquaculture Research Paper and Symposium:

Students are required to write a literature review research paper describing one cultured aquaculture species of their choice.

DUE DATES:

Sunday, Feb 23: Topic identified on discussion board

Sunday, March 16: Outline

Sunday, April 20: First Rough Draft

Sunday, May 11: Final Draft

FORMAT:

- MLA Format
- Submit in Word document NOT pdf so I can make suggestions via track changes
- Typed with 12- point Font in Times New Roman
- Double spaced
- 4-6 pages in Length
- At least 5 peer-reviewed references should be cited from a research journal.
- Pictures, diagrams, and tables are highly encouraged but *not* required. They will not count towards page requirements.

OUTLINE:

- I. Introduction
- II. Life History
- III. Water Quality Requirements
- IV. Reproduction and Larval Culture
- V. Production Methods (Techniques and Systems used)
- VI. Nutritional Requirements
- VII. Disease
- VIII. Future Directions for the Industry
- IX. References

References: Utilize google scholar (<https://scholar.google.com/>) to search for academic journals. If there is a research manuscript you are unable to access, please let me know. I may be able to get it for you.

Tentative Course Schedule

AQUA-1: Intro to Aquaculture				
Module	Week 1	Topic	Textbook	Assignment
1	Feb 3 – 9	Course Overview Intro to Aquaculture/Historical	Tidwell Ch. 2	DB: 1 Quiz 1
Module	Week 2			
2	Feb 10-16	Functions and Characteristics of Aquaculture Systems	Tidwell, Ch. 3 Lucas et al. Ch. 3	DB: 2 Quiz 2
Module	Week 3			
3	Feb 17-23	Water Sources Water Quality	Tidwell, Ch.3 Lucas et al., Ch.4	DB: 3 Quiz 3
Module	Week 4			
4	Feb 24-2	EXAM 1		
Module	Week 5			
5	Mar 3-9	Ponds & Raceways Aquaponics	Tidwell, Ch. 10	DB: 4 Quiz 4
Module	Week 6			
6	Mar 10-16	Cages and Offshore Net Pens Integrated Multi-Trophic Aqua	Tidwell, Ch. 6 & 7 Tidwell, Ch. 11	DB: 5 Quiz 5
Module	Week 7			
7	Mar 17-23	SPRING BREAK!		
Module	Week 8			
8	Mar 24- 30	Recirculating Aquaculture System	Lucas et al. Ch. 8 & 15	DB: 6 Quiz: 6
Module	Week 9			
9	Mar 31 – Apr 6	Aquaponics Biofloc Based	Tidwell Ch. 12	DB: 7 Quiz 7
Module	Week 10			
10	Apr 7 – 13	Exam 2		
Module	Week 11			
11	Apr 14 - 20	Seaweed Production	Lucas et al. Ch. 24 & Ch. 6	DB: 8 Quiz 8
Module	Week 12			
12	Apr 21 - 27	Fish Reproduction	Lucas et al. Ch. 6	DB: 9 Quiz 9
Module	Week 13			
13	Apr 28 – May 4	Fish Feeding Practices & Nutrition	Lucas et al. Ch. 8	DB: 10 Quiz 10
Module	Week 14			
14	May 5 - 11	Fish Health and Disease	Lucas et al, Ch.10	DB: 11

				Quiz 11
Module	Week 15			
15	May 12 – 16	FINAL EXAM		

**** THIS IS A TENTATIVE SCHEDULE AND IT IS SUBJECT TO CHANGE.**

Spring 2025 Dates

Date	To Remember
January 17	Last day to register for classes (day before the first-class meeting)
January 18	Classes begin
January 20	Martin Luther King's Birthday (All Campuses Closed)
January 24	Last Day to add a class
January 31	Last Day to Drop & Receive a Refund
February 2	Last Day to Drop w/out a "W"
February 3	Census Date (20% of class)
February 14	Lincoln's Birthday (All Campuses Closed)
February 17	President's Day (All Campuses Closed)
March 6	Last Day to Petition to Graduate & Petition for Certificate
March 17 - 22	Spring Break (No Classes)
March 28	Last Day for Student/Faculty Withdrawal
March 31	Cesar Chavez Day (All Campuses Closed)
May 10 - 16	Final Examinations
May 16	Last Day to File P/NP Option
May 16	Semester Ends
May 23	Grades Due
May 26	Memorial Day (All Campuses Closed)
May 30	Grades Available for Transcript Release

Educational Accessibility & Support

College of the Redwoods is committed to providing reasonable accommodation for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, bipolar disorder, and ADHD
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders, and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability

- A learning disability (such as dyslexia, reading comprehension), intellectual disability, autism, or acquired brain injury
- Vision, hearing, or mobility challenges

Available services include extended test time, quiet testing environments, academic assistance and tutoring through the [LIGHT Center](#), counseling and advising, alternate formats of course materials (e.g., audio books, braille, E-texts), assistive technology, learning disability assessments, approval for personal attendants, interpreters, priority registration, on-campus transportation, adaptive physical education and living skills courses, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact [Student Accessibility Support Services \(SASS\)](#). If you are unsure whether you qualify, please contact Student Accessibility Support Services (SASS) for a consultation: sass@redwoods.edu.

SASS office locations and phone numbers

Eureka campus

- Phone: 707-476-4280
- Location: Student Services Building, first floor

Del Norte campus

- Phone: 707-465-2324
- Location: Main Building, next to the library

Klamath-Trinity campus

- Phone: 707-476-4280

Student Support Services

Good information and clear communication about your needs will help you be successful. Please let your instructor know about any specific challenges or technology limitations that might affect your participation in class. College of the Redwoods wants every student to be successful.

The following online resources are available to support your success as a student:

[CR Online Learning Support](#)

Tech support, laptop loans, guides to using Canvas, installing Office 365 for free, and more.

[Library Articles & Databases](#)

Find the best library databases for your research.

[Online Tutoring Resources](#)

Participate in tutoring over Zoom.

To learn more about the resources available to you, click on a title bar below, or click the down arrow to expand them all.

Klamath-Trinity students can contact the CR Klamath-Trinity Office for specific information about student support services at 530-625-4821.

Community College Student Health and Wellness

National Suicide Prevention Lifeline

If you are in distress or are with someone at risk right now, call or text the National Suicide Prevention Lifeline.

Call the National Suicide Prevention Lifeline

1-800-273-TALK (8255)

Text the National Suicide Prevention Lifeline

741-741

Timely Care

When you're not feeling well physically or distressed mentally, Timely Care can offer the help you're looking for in just a few quick taps. Students can schedule an appointment anytime via phone, video, and chat. [Log in or set up an account with Timely Care.](#)

Mental Health Counseling

Students should text, email, or fax Shawna Bell directly for scheduling and/or services.

- Text: 707-496-2856
- Email: shawnabmft@gmail.com
- Fax and voicemail: 707-237-2318

Wellness Central

Resources, tools, and trainings regarding health, mental health, wellness, basic needs and more designed for California community college students, faculty and staff are available on the California Community Colleges [Wellness Central](#).

Counseling

[Counseling and Advising](#) can assist students in need of academic advising and professional counseling services. Call, email or stop by one of our offices to make an appointment!

Counseling and Advising office locations and contact info

Eureka campus

- Phone: 707-476-4150
- Location: Student Services Building, first floor
- Email: counseling@redwood.edu
- Hours: Monday through Friday, 9am to 4pm. Summer hours may vary

Del Norte campus

- Phone: 707-476-2300
- Location: Main Building, next to the library
- Hours: Summer hours may vary

Klamath-Trinity campus

- Phone: 530-625-4821
- Email: KT-staff@redwoods.edu
- Hours: Summer hours may vary

Basic Needs Center

[The Basic Needs Center](#) provides for the health and safety of students by providing access to healthy food, financial resources, and referrals to safe and secure housing. [Submit a request for services and information.](#)

Basic Needs Center contact info

- Phone: 707-476-4153
- Email: the-grove@redwoods.edu

Learning Resource Center

The Learning Resource Center includes the following resources for students:

Library Services

[Introduction - Library Services for Students - LibGuides at College of the Redwoods](#) promotes information literacy and provides organized information resources.

Multicultural and Equity Center (MCE)

The [Multicultural and Equity Center](#) is a dynamic and inclusive place that supports all students in their academic and personal journeys at the college. We do this by creating community, home away from home, and a safe place for cultural expression, cross-cultural learning, access to college and dignity resources, and social justice work opportunities. The MEC is committed to retention and student success by offering activities related to leadership development, student connectedness and student equity. We are a student-centered program that fosters respect for all people.

Academic Support Center

The [Academic Support Center](#) offers tutoring and test proctoring for CR students.

Student Tech Help

Technical [Support](#) provides students with assistance around a variety of tech problems.

Extended Opportunity Programs and Services (EOPS)

[EOPS/CARE](#) (EOPS) provides services to eligible income disadvantaged students including: textbook awards, grants, career academic and personal counseling, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!

TRiO Student Success Program

The TRiO Student Support Services Program provides eligible students with a variety of services including academic advising, career assessments, assistance with transfer, and peer mentoring. Students can apply

for the program with the [Eureka TRiO office](#) or the [Del Norte TRiO office](#).

Veterans Resource Center

The [Veteran's Resource Center](#) supports and facilitates academic success for Active Duty Military, Veterans and Dependents attending CR through relational advising, mentorship, transitional assistance, and coordination of military and Veteran-specific resources.

CalWORKS

California Work Opportunity & Responsibility to Kids ([CalWORKs](#)) provides supportive services to student parents with children under the age of 18, who are receiving cash assistance (TANF benefits), to become self-sufficient. Services include transportation assistance, basic student supplies, tutoring, priority registration, laptop and calculator loans, career, academic, and personal counseling, and more!

Academic dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [2024-2025 College Catalog](#) and [CR Board and Administrative Policies](#).

AI Use Class Policy

Recent advancements in generative artificial intelligence (AI) have made large language models such as ChatGPT and Google's Bard widely available. Sometimes, using these tools appropriately can help us overcome barriers and allow us to focus on deeper learning. However, overuse of these tools can undermine the development of our critical and creative thinking skills. In addition, AI outputs are often unreliable and frequently subject to bias. For these reasons, it is sometimes appropriate and sometimes inappropriate to use generative AI in the completion of assignments or in discussion posts. For this class, please see the specific assignment instructions for guidance on how and when generative AI tools may be used appropriately as we're working on and learning from a particular assignment. Also, please keep in mind that you are responsible for anything you submit; please carefully review all AI-generated outputs, screening them for accuracy, bias, appropriateness, and fidelity to your perspective.

Disruptive Behavior

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [2024-2025 College Catalog](#) and [CR Board and Administrative Policies](#).

Inclusive Language in the Classroom

College of the Redwoods aspires to create a learning environment in which all people feel comfortable in contributing their perspectives to classroom discussions. It therefore encourages instructors and students to use language that is inclusive and respectful.

Canvas Information

- Log into Canvas at [My CR Portal](#)
- For help logging in to Canvas and general tech help, visit [Canvas Support Home](#)
- Once you're logged in to Canvas, you click on the Help icon on the left menu
- Canvas online orientation workshop: [Canvas Student Orientation Course](#)

Setting Your Preferred Name and Pronouns in Canvas

Students have the ability to display personal pronouns and an alternate first name in Canvas. Students may change their pronouns on their own in Canvas (Account :: Settings :: Edit Settings). To request a change to your preferred list name, contact [Admissions and Records](#). Your Preferred Name will only be listed in Canvas; this does not change your legal name in our records. See the [Student Information Update form-2022.pdf](#).

Emergency Procedures / Everbridge

College of the Redwoods has implemented an emergency alert system called Everbridge. In the event of an emergency on campus you will receive an alert through your personal email and/or phones. Registration is not necessary in order to receive emergency alerts. Check to make sure your contact information is up-to-date by logging into [WebAdvisor](#) and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or campus-safety@redwoods.edu if you have any questions. For more information visit [Campus Safety](#). Please review the [EurekaEmergencyMap_S24.pdf](#) for campus evacuation sites, including the closet site to this classroom (posted by the exit of each room).

In an emergency that requires an evacuation of the building anywhere in the District:

- Be aware of all marked exits from your area and building
- Once outside, move to the nearest evacuation point outside your building
- Keep streets and walkways clear for emergency vehicles and personnel

Do not leave campus, unless it has been deemed safe by the campus authorities.

To learn more about campus-specific Emergency Procedures, click on a title bar below, or click the down arrow to expand them all.

Del Norte Campus Emergency Procedures

Please review the [Crescent City campus emergency map](#) for campus evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information, visit [Redwoods Public Safety](#).

Klamath-Trinity Campus Emergency Procedures

Please review the responsibilities of, and procedures used by, the College of the Redwoods, Klamath Trinity Instructional Site (KTIS) to communicate to faculty, staff, students and the general public during an emergency. It is the responsibility of College of the Redwoods, Klamath-Trinity Instructional Site (KTIS) to protect life and property from the effects of emergency situations within its own jurisdiction.

In the event of an emergency, communication shall be the responsibility of the district employees on scene:

1. Dial 911, to notify local agency support such as law enforcement or fire services.
2. If safe to do so, notify key administrators, departments, and personnel.
3. If safe to do so, personnel shall relay threat information, warnings, to ensure the school community is notified.
4. Contact 530-625-4821 to notify of the situation.
5. Contact Hoopa Tribal Education Administration office 530-625-4413
6. Notify Public Safety 707-476-4111.

In the event of an emergency, the responsible district employee on the scene will:

1. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet.
2. Lock all doors and turn off lights if in lockdown due to an active shooter or similar emergency.
3. Close all window curtains.
4. Get all inside to safe location Kitchen area is best internal location.
5. If a police officer or higher official arrives, they will assume command.
6. Wait until notice of all is clear before unlocking doors.
7. If safe to do so, move to the nearest evacuation point outside building (Pooky's Park), directly behind the Hoopa Tribal Education Building.
8. Do not leave site, unless it has been deemed safe by the person in command.