

**Course Information**

**Semester & Year:** Fall 2023

**Course ID & Section #:** AQUA-1-E5529

**Instructors Name:** Jasmine Iniguez

**Day/Time of required meetings:** M/W 10:05-11:30

**Location:** AT 106

**Course units:** 3

**Instructor Contact Information**

**Office location:** SCI 216I

**Office hours:** T/TH 10-11:30 AM or by appointment

**Phone number:** (707) 476-4528

**Email address:** [jasmine-iniguez@redwoods.edu](mailto:jasmine-iniguez@redwoods.edu)

**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/co-requisites/ recommended preparation**

None

**Required Course Textbook**

**Aquaculture: Farming Aquatic Animals and Plants, 3<sup>rd</sup> Edition**

Author: John S. Lucas & Paul C. Southgate

Publisher: Wiley-Blackwell

ISBN: 9781119230861

## **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=primo>

### **Supplemental References:**

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

## **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 (e.g., dyslexia, reading comprehension), intellectual disability, autism, or acquired brain injury
- Vision, hearing, or mobility challenges

Available services include extended test time, quiet testing environments, tutoring, counseling and advising, alternate formats of materials (e.g., audio books, E-texts), assistive technology, on-campus transportation, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact [Disability Services and Programs for Students \(DSPS\)](#). If you are unsure whether you qualify, please contact DSPS for a consultation: [dsps@redwoods.edu](mailto:dsps@redwoods.edu).

- Eureka: 707-476-4280, Student Services Building, 1st floor.
- Del Norte: 707-465-2324, Main Building, near the library
- Klamath-Trinity: 707-476-4280

## **Student Support**

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.

## Evaluation & Grading Policy

### Grading:

Course Requirements	Percent of Total Grade	Due Date
Exam 1	20	Wednesday, Sep. 20
Exam 2	20	Wednesday, Nov. 1
Final Exam	20	Wednesday, Dec. 13
Research Paper	20	Final: Monday, Dec. 4
Quizzes	5	Wednesdays
Oral Presentation	10	Wednesday, Nov. 29
Participation (attendance taken into account)	5	

### Late Assignments:

Each student is responsible for completing all assignments and activities as specified by the instructor. If you have an emergency, please notify me as soon as you can if this affects your coursework or attendance. For each day an assignment is late, its grade will be lowered to a full letter grade.

### Quizzes

Quizzes are worth 5% of your grade and will fall on Wednesday unless there is a scheduled field trip on that day then it will fall on Monday. You will be given 10 minutes to take the quiz. They are not open books so review previous material!

### Research Paper – Species Profile

Students are required to write a research paper describing one cultured species of their choice. Each student should have a species identified and approved. Email me topic species for approval by September 13<sup>th</sup>. **The final draft will be due Monday, December 4, 2023.**

**Format:** This paper should be 4-6 pages in length, typed with 12- point font in Times New Roman and spacing of 1.5. 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.

The paper must be formatted following the guidelines from the Journal of the World Aquaculture Society. An example paper will be shared for you to reference formatting and structures. Links to the guidelines will be shared on Canvas.

\*The outline of the paper must include, Abstract, Introduction, Life History, Water Quality Requirements, Reproduction and Larval Culture, Production Methods, Nutritional Requirements, Diseases, and Future Directions.

**Citations:** Utilize google scholar (<https://scholar.google.com/>) to search for academic journals. If there is a research manuscript you are unable to access- let me know and I may be able to access

it for you!

### Research Paper DUE Dates:

**Monday, Sept. 13** – Selected species of choice (send email to instructor for approval)

**Monday, Sep. 25**- Outline with reference

**Monday, Oct. 23** – First completed draft

**Monday, Dec. 4** – Final Draft Due

### Field Trips and Guest Lectures:

There are two field trips during lecture time.

- **Wednesday, August 30<sup>th</sup>** Cal Poly Humboldt -Fish Hatchery Tour
- **Wednesday, October 4<sup>th</sup>** Cal Poly Fish Hatchery – Interactive Exercise Identifying Aquaculture Equipment and System Components
- **Monday, November 27<sup>th</sup>** Nordic Aquafarms Project Manager, Scott Thompson

### Tentative Course Schedule:

<b>AQUA 1: Intro to Aquaculture</b>		
<b>Date</b>	<b>Week 1</b>	<b>Lecture Topic: (M/W 10:05- 11:30 AM)</b>
21-Aug	M	Course Overview and Introduction to Aquaculture (Lucas & Tidwell, Ch. 1)
23-Aug	W	History – Aquaculture and Local Aquaculture (Tidwell, Ch. 2)
	<b>Week 2</b>	
28-Aug	M	Functions and Characteristics of Aquaculture systems / <b>QUIZ 1</b> (Tidwell, Ch. 3.)
30-Aug	W	<b>Field Trip CPH: Tour Fish Hatchery/ Fisheries Department</b>
	<b>Week 3</b>	
<b>4-Sep</b>	<b>M</b>	<b>Labor Day – NO CLASS</b>
6-Sep	W	Categories of Aquaculture Production Systems (Tidwell, Ch. 4)
	<b>Week 4</b>	
11-Sep	M	Water Sources (Lucas, Ch.4)
13-Sep	W	Water Quality / <b>QUIZ 2</b> (Lucas, Ch.4)
	<b>Week 5</b>	
18-Sep	M	Water Quality + Exam Review (Lucas, Ch 4.)
<b>20-Sep</b>	<b>W</b>	<b>EXAM 1</b>
	<b>Week 6</b>	
25-Sep	M	Ponds and Raceways (Tidwell, Ch. 10)
27-Sep	W	Partitioned Aquaculture System / <b>QUIZ 3</b> (Tidwell, Ch. 13)
	<b>Week 7</b>	
2-Oct	M	RAS, Recirculating Aquaculture Systems (Tidwell, Ch. 11)
<b>4-Oct</b>	<b>W</b>	<b>CPH Field Trip: Identification of Equipment &amp; System Components</b>
	<b>Week 8</b>	

9-Oct	M	RAS (Recirculating Aquaculture Systems) cont. (Tidwell, Ch. 11)
11-Oct	W	Biofloc Systems / <b>QUIZ 4</b> (Tidwell, Ch. 11)
	<b>Week 9</b>	
16-Oct	M	Cage and Net Pen Aquaculture (Tidwell, Ch 6.)
18-Oct	W	IMTA / <b>QUIZ 5</b>
	<b>Week 10</b>	
23-Oct	M	Aquaponics (Tidwell, Ch.14)
25-Oct	W	Aquaculture Based Fisheries and Restorative Aquaculture / <b>QUIZ 6</b> (Tidwell, Ch.8)
	<b>Week 11</b>	
30-Oct	M	Seaweed Aquaculture + Exam Review (Lucas, Ch. 15)
1-Nov	W	<b>EXAM 2</b>
	<b>Week 12</b>	
6-Nov	M	Fish Reproduction (Lucas, Ch. 6)
8-Nov	W	Fish Reproduction & Genetics / <b>QUIZ 7</b> (Lucas, Ch. 6&7)
	<b>Week13</b>	
13-Nov	M	Fish Health and Diseases (Lucas, Ch.10)
15-Nov	W	Careers in Aquaculture with Interactive Exercise / <b>QUIZ 8</b>
	<b>Week 14</b>	
20-Nov	M	<b>FALL BREAK - NO CLASS</b>
22-Nov	W	<b>FALL BREAK - NO CLASS</b>
	<b>Week15</b>	
27-Nov	M	<b>Scott Thompson -Nordic Aquafarms, Project Manager</b>
29-Nov	W	Species Profile Presentations
	<b>Week 16</b>	
4-Dec	M	Species Profile Presentations
6-Dec	W	Review Final Exam
	<b>Week 17</b>	
11-Dec	M	NO CLASS – Best of luck on finals! 😊
13-Dec	W	<b>FINAL EXAM @ 10:05 – 12:45 AM</b>

### Fall 2023 Dates

- **August 18<sup>th</sup>**: Last day to register for classes (day before the first-class meeting)
- **August 19<sup>th</sup>**: Classes begin
- **August 25<sup>th</sup>**: Last day to add a class
- **September 1<sup>st</sup>**: Last day to drop without a “W” and receive a refund
- **September 4<sup>th</sup>**: Labor Day Holiday (All Campuses Closed)
- **September 5<sup>th</sup>**: Census Date (20% of class)
- **October 26<sup>th</sup>**: Last day to petition to graduate

- **October 27<sup>th</sup>**: Last day for student-initiated withdrawal (62.5% of class)
- **October 27<sup>th</sup>**: Last day for faculty-initiated withdrawal (62.5% of class)
- **November 11<sup>th</sup>**: Veterans Day (All Campuses Closed)
- **November 20<sup>th</sup>-25<sup>th</sup>**: Thanksgiving break (no classes)
- **November 22<sup>nd</sup>-24<sup>th</sup>**: No Classes, all campuses closed
- **December 9<sup>th</sup>-15<sup>th</sup>**: Final Examinations
- **December 15<sup>th</sup>**: Last day to file for P/NP option
- **December 15<sup>th</sup>**: Semester Ends
- **December 22<sup>nd</sup>**: Grades due
- **January 5<sup>th</sup>**: Grades available

## 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 [College Catalog](#) and on the [College of the Redwoods website](#).

## 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. 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 [College Catalog](#) and on the [College of the Redwoods website](#).

## 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.

## Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. 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.](#)

## **Canvas Information**

### **Canvas Information**

If using Canvas, include navigation instructions, tech support information, what Canvas is used for, and your expectation for how regularly students should check Canvas for your class.

Log into Canvas at [My CR Portal](#)

For help logging in to Canvas, visit [My CR Portal](#).

For help with Canvas once you're logged in, click on the Help icon on the left menu.

For tech help, email [its@redwoods.edu](mailto:its@redwoods.edu) or call 707-476-4160

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](#)

## **Community College Student Health and Wellness**

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 [Health & Wellness website](#)

## **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 <https://webadvisor.redwoods.edu> and selecting 'Students' then 'Academic Profile' then 'Current Information Update.'

Please contact Public Safety at 707-476-4112 or [security@redwoods.edu](mailto:security@redwoods.edu) if you have any questions. For more information see the [Redwoods Public Safety Page](#).

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.

### **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, see the [Redwoods Public Safety Page](#).

### **Eureka Campus Emergency Procedures**

Please review the [campus emergency map](#) for evacuation sites, including the closest site to this classroom (posted by the exit of each room). For more information on Public Safety go to the [CR Police Department- Public Safety](#) It is the responsibility of College of the Redwoods to protect life and property from the effects of emergencies within its own jurisdiction.

In the event of an emergency:

1. Evaluate the impact the emergency has on your activity/operation and take appropriate action.
2. Dial 911, to notify local agency support such as law enforcement or fire services.
3. Notify Public Safety 707-476-4111 and inform them of the situation, with as much relevant information as possible.
4. Public Safety shall relay threat information, warnings, and alerts through the Everbridge emergency alert system, Public address system, and when possible, updates on the college website, to ensure the school community is notified.
5. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet, (evacuation to a safe zone, shelter in place, lockdown, assist others if possible, cooperate with First Responders, etc.).
6. If safe to do so, notify key administrators, departments, and personnel.
7. Do not leave campus, unless it is necessary to preserve life and/or has been deemed safe by the person in command.

### **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.

1. In the event of an emergency, communication shall be the responsibility of the district employees on scene.
  - a. Dial 911, to notify local agency support such as law enforcement or fire services.
  - b. If safe to do so, notify key administrators, departments, and personnel.
  - c. If safe to do so, personnel shall relay threat information, warnings, to ensure the school community is notified.
  - d. Contact 530-625-4821 to notify of situation.
  - e. Contact Hoopa Tribal Education Administration office 530-625-4413
  - f. Notify Public Safety 707-476-4111.
2. In the event of an emergency, the responsible district employee on scene will:
  - a. Follow established procedures for the specific emergency as outlined in the College of the Redwoods Emergency Procedure Booklet.
  - b. Lock all doors and turn off lights if in lockdown due to an active shooter or similar emergency.
  - c. Close all window curtains.
  - d. Get all inside to safe location Kitchen area is best internal location.
  - e. If a police officer or higher official arrives, they will assume command.
  - f. Wait until notice of all is clear before unlocking doors.
  - g. If safe to do so, move to the nearest evacuation point outside building (Pooky's Park), directly behind the Hoopa Tribal Education Building.
  - h. Do not leave site, unless it has been deemed safe by the person in command. Student Support Services (required for online classes)

### **Student Support Services**

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

- [CR-Online](#) (Comprehensive information for online students)
- [Library Articles & Databases](#)
- [Canvas help and tutorials](#)
- [Online Student Handbook](#)



- [Online Tutoring Resources](#)

[Counseling](#) offers assistance to students in need of professional counseling services such as crisis counseling.

Learning Resource Center includes the following resources for students

- [Library Services](#) to promote information literacy and provide organized information resources.
- [Multicultural & Diversity Center](#)
- [Academic Support Center](#) – offers tutoring and test proctoring for CR students.
- [Student Tech Help](#) – provides students with assistance around a variety of tech problems

Special programs are also available for eligible students include:

- [Extended Opportunity Programs & Services \(EOPS\)](#) provides services to eligible income disadvantaged students including textbook award, career academic and personal counseling, school supplies, transportation assistance, tutoring, laptop, calculator and textbook loans, priority registration, graduation cap and gown, workshops, and more!
- The TRiO Student Success Program provides eligible students with a variety of services including trips to 4-year universities, career assessments, and peer mentoring. Students can apply for the program in [Eureka](#) or in [Del Norte](#)
- 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](#) – assists student parents with children under the age of 18, who are receiving cash assistance (TANF), to become self-sufficient.
- Klamath-Trinity students can contact the CR KT Office for specific information about student support services at (530)-625-4821.