

## ENVS 65: Introduction to Fresh Water: Processes and Policy Winter, 2023

This is an ON LINE course. The class meets in an online classroom (using Zoom), and accesses course materials via computer (using CANVAS).

**Instructor:** Professor Brent M. Haddad; [bhaddad@ucsc.edu](mailto:bhaddad@ucsc.edu); 831-331-0654.

**Office Hours: Mondays 10-12** and by appointment. Please sign up for a time slot ([here](#)), and then meet me in my ([zoom office](#)). I'm also happy to set up a special meeting time that matches both our schedules.

**Weekly optional real-time class meeting.** Every Wednesday, time TBD, there is a real-time class meeting. Students on the UCSC campus can attend in person and system-wide students can attend via ([this link](#)).

I'm happy to set up a special meeting time that matches both our schedules.

### Course Goals:

- Introduce key words and concepts related to fresh water processes and policies
- Review real-world challenges of fresh water management faced by cities, farming regions, and open-space managers.

### Learning Outcomes:

By completing the activities, assignments, and assessments in this course, you will:

- Be able to do basic calculations related to water storage and flow;
- Have greater insight into how water policy is made and implemented;
- Be introduced to natural and physical sciences related to water, and to water quality engineering;
- Be introduced to cost, financing, and rate-making challenges in the water sector;
- Have practice breaking a complex water problem into important parts, studying the parts, and then reconnecting the parts to better understand the entire problem; and
- Be knowledgeable about important water issues in California and elsewhere.

### Evaluation/Grading:

All assignments are to be turned in by uploading answers or documents at the CANVAS course site. Students will be graded on the basis of:

- **Homework problems** due by 4:00 pm Friday each week. They represent 60% of the total grade and are based on course readings and videos.
- **Reading summaries** due by 4:00 pm Friday every week. These are one-paragraph summaries of each of the required readings. (20% of total grade)
- One (1) **integrative essay assignment** to be uploaded by 4:00 pm on Monday, March 20. (20% of total grade)
- **Bonus assignments** will be offered throughout the quarter.

## Student Feedback

I look forward to hearing about your experience in ENVS 65. You can email or call me visit me in office hours. Thank you in advance for your assessments and suggestions both during and after the class!

## Reading Assignments

The required text that must be purchased is:

Carle, David. 2016. Introduction to Water in California: Updated with a New Preface. 2nd edition. London England: University of California Press.

You can purchase David Carle's book at the UCSC bookstore, on Amazon, or at other online book venues. Please buy the 2nd edition. (There is a first edition that is missing some sections we read here and the page numbering is different.)

All other required readings are available in the online learning environment or via web link.

## Order of Topics

**Week 1:** Water Policy Dilemma; Understanding Water Reliability; Measuring Water

**Week 2:** Hydrology & Geology; Aquatic Ecology; Natural History of Fresh Water; Fresh Water Endangered Species

**Week 3:** Water Quality; Water-Related Diseases; the Challenge of Cholera, Malaria, and Dengue

**Week 4:** Urban Water Supply; Water and Agriculture; Improving Water Quality: Treatment Systems

**Week 5:** Water Finance; Water Rate Design

**Week 6:** Water, Culture, and Ethics; Public vs. Private Water; Water Rights and Law

**Week 7:** Climate Change; Links Between Water and Energy

**Week 8:** Integrated Water Resources Management; Dams and Hydropower

**Week 9:** California's Statewide Water System; San Francisco, Los Angeles, and Their Imported Water; Water Supply and Water Quality in Developing Nations

**Week 10:** Chinese Water Development; U.S.-Mexico Water Relations; International Water Basins; Careers in Water.

**Field Trip:** For students in the Santa Cruz area, a one-day field trip will occur midway through the quarter.

## **Covid Policy**

Each individual should act in the best interests of everyone else in our community. Please take care to comply with all university guidelines about masking and testing as required by the campus vaccine policy, self-isolating in the event of exposure, and respecting others' comfort with distancing. If you are ill or suspect you may have been exposed to someone who is ill, or if you have symptoms that are in any way similar to those of COVID-19, please err on the side of caution and stay home until you are well or have tested negative after an exposure. Let me know that you're not feeling well and I'll respond about how best you can keep learning.

## **Academic Integrity**

All members of our community benefit from an environment of trust, honesty, fairness, respect, and responsibility. You are expected to present your own work and acknowledge the work of others in order to preserve the integrity of scholarship.

Academic integrity includes:

- Following exam rules
- Using only permitted materials during an exam
- Viewing exam materials only when permitted by your instructor
- Keeping what you know about an exam to yourself
- Incorporating proper citation of all sources of information
- Submitting your own original work

Academic misconduct includes, but is not limited to, the following:

- Disclosing exam content during or after you have taken an exam
- Accessing exam materials without permission
- Copying/purchasing any material from another student, or from another source, that is submitted for grading as your own
- Plagiarism, including use of Internet material without proper citation
- Using cell phones or other electronics to obtain outside information during an exam without explicit permission from the instructor
- Submitting your own work in one class that was completed for another class (self-plagiarism) without prior permission from the instructor.

Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student's transcript. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Misconduct page](#), at the [Division of Undergraduate Education](#).

## Intellectual Property

The materials in this course are the intellectual property of their creators. As a student, you have access to many of the materials in the course for the purpose of learning, engaging with your peers in the course, completing assignments, and so on. You have a moral and legal obligation to respect the rights of others by only using course materials for purposes associated with the course. For instance, you are not permitted to share, upload, stream, sell, republish, share the login information for, or otherwise disseminate any of the course materials, such as: video and audio files, assignment prompts, slides, notes, syllabus, simulations, datasets, discussion threads. Conversely, any materials created solely by you (for example, your videos, essays, images, audio files, annotations, notes) are your intellectual property and you may use them as you wish.

## Accessibility

UC Santa Cruz is committed to creating an academic environment that supports our University's diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please affiliate with the DRC. I encourage all students to benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu](mailto:drc@ucsc.edu). For students already affiliated, make sure that you have requested Academic Access Letters, where you intend to use accommodations. You can also request to meet privately with me during my office hours or by appointment, as soon as possible. I would like us to discuss how we can implement your accommodations in this course to ensure your access and full engagement in this course.

## Religious Accommodation

UC Santa Cruz welcomes diversity of religious beliefs and practices, recognizing the contributions differing experiences and viewpoints can bring to the community. There may be times when an academic requirement conflicts with religious observances and practices. If that happens, students may request the reasonable accommodation for religious practices. The instructor will review the situation in an effort to provide a reasonable accommodation without penalty. You should first discuss the conflict and your requested accommodation with your instructor early in the term. You or your instructor may also seek assistance from the [Dean of Students office](#).

## Principles of Community

The University of California, Santa Cruz expressly prohibits students from engaging in conduct constituting unlawful discrimination, harassment or bias. ([See more here.](#)) I am committed to providing an atmosphere for learning that respects diversity and supports inclusivity. We need to work together to build this community of learning. I ask all members of this class to:

- be open to and interested in the views of others

- consider the possibility that your views may change over the course of the term
- be aware that this course asks you to reconsider some “common sense” notions you may hold
- honor the unique life experiences of your colleagues
- appreciate the opportunity that we have to learn from each other
- listen to each other’s opinions and communicate in a respectful manner
- keep confidential discussions that the community has of a personal (or professional) nature
- ground your comments in the texts we are studying. Refer frequently to the texts and make them the focus of your questions, comments, and arguments. This is the single most effective way to ensure respectful discussion and to create a space where we are all learning together.

### **Land Acknowledgement**

The land on which U.C. Santa Cruz was built is the unceded territory of the Awaswas-speaking Uypi Tribe. The Amah Mutsun Tribal Band, comprised of the descendants of indigenous people taken to missions Santa Cruz and San Juan Bautista during Spanish colonization of the Central Coast, is today working hard to restore traditional stewardship practices on these lands and heal from historical trauma.

### **Title IX / Care Advisory**

The [.Title IX Office.](#) is committed to fostering a campus climate in which members of our community are protected from all forms of sex discrimination, including sexual harassment, sexual violence, and gender-based harassment and discrimination. Title IX is a neutral office committed to safety, fairness, trauma-informed practices, and due process.

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273. In addition, Counseling & Psychological Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University’s Title IX Office, (831) 459-2462. Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911.

### **Content Advisory**

This course examines some texts, images, and videos that contain descriptions of trauma and/or scenes depicting violence, for example, flooding impacts and impacts of dengue fever. I will do my best to provide individual warnings in class and in the online course materials and in presentation slides for class content that are particularly sensitive. My hope is that these notifications will help your engagement by allowing you to prepare to work through challenging material, or simply avoid them. I encourage you to do what you need to care for yourself. If

taking care of yourself means that you need to take a break during class, either for a short time or for the rest of the class, you may do so without academic penalty. If you do leave the class for a significant time, please make arrangements to get notes from another student or connect with me individually.

### **Report an Incident of Hate or Bias**

The University of California, Santa Cruz is committed to maintaining an objective, civil, diverse and supportive community, free of coercion, bias, hate, intimidation, dehumanization or exploitation. The Hate/Bias Response Team is a group of administrators who support and guide students seeking assistance in determining how to handle a bias incident involving another student, a staff member, or a faculty member. To report an incident of hate or bias, please use the link below:

- [Hate/Bias Report Form.](#)

### **Student Services**

#### [Counseling and Psychological Services.](#)

Many students at UCSC face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

#### [Student Success and Engagement Hub.](#)

The Division of Student Success provides campus-wide coordination and leadership for student success programs and activities across departments, divisions, the colleges, and administrative units.

#### [Tutoring.](#) and Learning Support

At Learning Support Services (LSS), undergraduate students build a strong foundation for success and cultivate a sense of belonging in our Community of Learners. LSS partners with faculty and staff to advance educational equity by designing inclusive learning environments in Modified Supplemental Instruction, Small Group Tutoring, and Writing Support. When students fully engage in our programs, they gain transformative experiences that empower them at the university and beyond.

#### [Slug Support Program.](#)

College can be a challenging time for students and during times of stress it is not always easy to find the help you need. Slug Support can give help with everything from basic needs (housing, food, or financial insecurity) to getting the technology you need during remote instruction.

To get started with SLUG Support, please contact the [Dean of Students](#). Office at 831-459-4446 or you may send us an email at [deanofstudents@ucsc.edu](mailto:deanofstudents@ucsc.edu).

Slug Help/[Technology](#).

The ITS Support Center is your single point of contact for all issues, problems or questions related to technology services and computing at UC Santa Cruz. To get technological help, simply email [help@ucsc.edu](mailto:help@ucsc.edu).

### **On-Campus Emergency Contacts**

Slug Help/[Emergency Services](#).

For all other help and support, including the health center and emergency services, start [.here](#). Always dial 9-1-1 in the case of an emergency.