

PCB 3442 - 001 Aquatic Ecology

Fall 2023

Department of Biology, College of Sciences

3 Credit Hours

Class meeting times: 10:30 am – 11:50 am (Tue, Thu)

Class location: BA1-O225 (Business Administration Building)

Modality: Face to face (P)

Instructor Information

Dr. William Crampton

Associate Professor, Department of Biology

- Office Location: Bio 402A
- Contact: crampton@ucf.edu

About my research:

- <https://www.researchgate.net/profile/William-Crampton>
- <https://scholar.google.com/citations?hl=en&user=EH3KFZMAAAAJ>
- <https://sciences.ucf.edu/biology/person/will-crampton/>

Course schedule:

Download from Webcourses: Files > Syllabus and Schedule (this may be updated through the semester as per Webcourses Announcements).

Office Hours:

Office hours: 12:00 – 2 pm (Tue, Thu)

Location: BIO-402A (Biology Building).

Outside office hours: By appointment only (please email me with a request giving a range of dates and times that you are available).

Course Information summary

- Term: Fall 2023

- Course Number & Section: PCB 3442-001
- Class number: 85765
- Course Name: “Aquatic ecology”
- Credit Hours: 3
- Class Meeting Days: Tuesday, Thursday
- Class Meeting Time: 10:30 am - 11:50 pm
- Class Location: BA1-O225 (Business Administration Building)
- Course Modality: Face-to-face (P).

Enrollment Requirements

Course prerequisites: BSC 2010C and a "B" (3.0) or better in BSC 2011C

Course Co-requisites: Not applicable

Other Enrollment Requirements: Not applicable

Course Description

Aquatic Ecology is a general introduction to freshwater ecology. The course covers (in various degrees of detail): freshwater systems of the world, physical and chemical properties of water, biodiversity and diversification of freshwater organisms, adaptations to aquatic life, physiology, sensory ecology, trophic ecology, and conservation and management. The course covers all major freshwater habitats, but places emphasis on tropical systems (where aquatic diversity reaches its highest levels) and subtropical systems (Florida and other regions).

Course Abbreviated Description

The ecology of ponds, lakes, streams, and rivers

Course objectives

This is a lecture-based class, in which students will learn principles of aquatic ecology, as well as explore case studies. A major goal of this class is to help students develop critical and independent scientific thinking. There will be laboratory and field demonstrations. There will also be an experiment with live electric fish (weakly electric gymnotiform fish from South America) intended to teach basic data collection and analysis techniques.

Student Learning Outcomes

- Learn core concepts in aquatic ecology
- Build upon skills learned in Introductory Biology II
- Learn to think critically about scientific questions and hypotheses
- Interpret and understand graphs, figures, and basic statistics
- Write a review paper on a chosen topic

Course Materials and Resources

- There is no required textbook.
- **Class website:** Webcourses (<https://webcourses.ucf.edu>).
- Power point lectures, demonstration worksheets, other resources, and announcements will be posted on Webcourses.
- To obtain these resources go to Files > Lectures / Resources etc. in Webcourses.

Hardware and software requirements

You will need a computer with broadband internet access. You will also need a web browser, Adobe Reader (or an equivalent .pdf reader), Microsoft Word (or similar word processing software), and Microsoft Excel. You will be expected to do simple analyses in Excel for your Demonstration worksheets.

Course Activities

Lectures: Questions are encouraged at any time. Lecture notes will be posted as PowerPoint lectures in Files > Resources > Lectures (typically < 24 hours).

IMPORTANT! Please be sure to download the lectures! You will not have access to all the animations if you attempt to browse the PowerPoint files inside Webcourses.

Read the two lines above again – they are important. Please be sure to DOWNLOAD the Powerpoint presentations!

Demonstrations: There will be lab and field demonstrations You will be given Demonstration Worksheets for each demonstration. These will in due course also available for download from Webcourses > Files > Resources > Demonstration Worksheets (some will be available after the demonstration, others before – as announced).

Please follow the instructions on the worksheets (details will also be described in the lectures/demonstrations), fill these in and submit **in class** as a printed document before **December 1**). You may fill in the Demonstration Worksheets with a pencil/pen or type into the electronic version as you desire.

Term Paper: You will pick a **freshwater** ecology/biology related subject of interest to you and conduct a **literature-based review**. Do not replicate your term papers with material from any other class (be aware that instructors are permitted by FERPA rules to share notes on such matters). See *Multiple Submissions* statement in the Academic Integrity statement near the end of this document.

Term paper instructions:

1. Submit a term paper proposal consisting of a *preliminary* title (maximum 20 words) and a *preliminary* abstract (maximum 200 words) **for my approval**. Your abstract will provide a brief description of what you propose to write about. Submit any time before the

deadline on October 5 via emails (use your official ucf email and if you do not receive a reply within 48 hours please let me know).

2. Once your term paper proposal is approved you can proceed to writing your term paper. I will discuss strategies for writing your term paper and useful resources during Lecture .
3. Type your term paper, print, and submit in class or to the Biology Reception (there will be a sign in sheet) before the final deadline on **November 9**. For every day you are late after this deadline **I will remove 1% from your score**. You will receive no score for the term paper if there is no submission by the day of the Final Exam.

In a special session on **September 7**, I will describe what themes are appropriate for your term papers. Essentially you may write about any theme related to the ecology/biology of freshwater systems/communities/species. I will not accept papers on marine systems or species.

Occasionally I will accept papers on estuarine systems but please contact me before you start writing your proposal. I will not accept papers on the use or treatment of water for agricultural, industrial or domestic consumption purposes. I will not accept papers that focus on waterborne diseases of humans or animals raised by humans. If your proposal is off-theme you will be directed to write a new one. Therefore, I encourage you all to check with me before you go to the efforts of writing your proposal, especially if your subject matter deviates from ecology/biology of natural freshwater systems/species.

Term paper formatting rules:

Go to Webcourses > Files > Resources > Term paper template for a term paper template document.

- **Minimum 6** and **Maximum 10** pages (including abstract and figures but *excluding* references and tables). If your paper is under or over length you will lose points.
- Use 12-point Times New Roman. Single spaced.
- Arrange your paper in the following order:

Title (on cover page) – up to 3 lines long. This can be different to your preliminary title, but I will need to approve a major topic change.

Abstract (also on cover page) (150 words minimum, 250 words maximum). This can be different to the abstract of your term paper proposal.

Background.

Then, if you like, divide your text into headings of your own choice (with no more than 2 levels of e.g., 1., 1.1). You don't need to divide the text into headings if you don't want to. Avoid headings that result in very short sections of text.

Embed figures in the text.

Summary

Tables

References (list papers cited in the text at the end of the text).

Other instructions:

- You are allowed up to **four** figures. Please embed these in text near the point at which they are first mentioned. Number them in order of first mention. Include a short legend below each one. Use color if you like. Cite sources of figures. All figures must have a purpose. Do not include figures for ornamental purposes or for the purposes of ‘padding’ space to reach the minimum length. Do not make your figures overly large in an attempt to reach the minimum length requirement.
- You are allowed up to **four** tables. These should be placed **at the end of the paper**. **They do not count in the page count**. Format tables as you like. You must make your own tables. **Do not copy tables from journal articles/other sources**.
- You are allowed an unlimited number of references. These do not count in the page count.
- No appendices or other supplementary documents should be included.
- The paper should be formatted approximately as a scientific journal (see example in Term paper template). As long as your bibliographic citations are standardized, it does not matter exactly what citation format you use. We will discuss how to find and cite bibliographic information in class.
- More information will be provided in the special class on September 7 about term papers and formatting, including notes on the use and misuse of ChatGPT and similar AI services.

Activity Submission deadlines

Submit your term paper abstract for pre-approval on **October 5**.

Submit your finished term paper before **November 9**. **For late submissions, your score will be reduced by 1% for every day after this deadline.**

Submit your completed demonstration worksheets in one single printed binder before **December 5 (but no earlier than November 15)**.

Attendance/Participation

Attendance of lectures and office hours is *strongly* encouraged but non-mandatory. You do not need to excuse yourself for missing a lecture and there is no need to write to me to declare your intention to miss a lecture. However, be aware that students who repeatedly miss lectures typically perform less well than students who have good attendance.

All exams must be conducted on the designated day unless an excused absence is approved by Dr. Crampton.

The Undergraduate Catalog states, “Reasons for acceptable absences may include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligations, severe weather conditions, and religious holidays.” Requests for excused absences should generally be accompanied by documentary evidence.

Assessment and Grading Procedures

The table summarizes the weight distribution for each assignment.	
Assignment	Percentage of Grade
Academic engagement quiz	1%
Exam 1	22% (multiple choice)
Exam 2	22% (multiple choice)
Term paper	20%
Demonstration worksheets	15%
Final Exam	20% (multiple choice)
Total	100%

Grading scale:

A: $\geq 90 - 100$, **B:** $\geq 80 < 90$, **C:** $\geq 70 < 80$, **D:** $\geq 60 < 70$, **F:** < 60 .

Consult the latest Undergraduate or Graduate [catalog](#) for regulations and procedures regarding grading such as Incomplete grades, grade changes, and grade forgiveness.

Grading breakdown:

Academic Engagement Quiz = 1% (Webcourses quiz to be completed in the first week of classes, before **Friday August 25** at 11:59 pm).

Exam 1 = 22% (multiple choice) (1 hr. 15 min, taken in the classroom)

Exam 2 = 22% (multiple choice) (1 hr. 15 min, taken in the classroom)

Term paper = 20%. You must submit your term paper before the deadline.

Demonstration worksheets = 15%. You must complete demonstration worksheets and submit them before the deadline. I will drop your lowest scoring demonstration.

Final exam = 20% (multiple choice, to be taken at the appointed time, no makeups)

Total = 100%

Notes on Final Exam. The final exam will be semi-cumulative (details to be announced later in the semester, but generally speaking about 75% of the questions will come from lectures subsequent to Exam 2 (with some questions based on Demonstrations, as announced). The remaining 25% of questions will come from the lectures previously covered in Exams 1 and 2, or they will be cross-disciplinary between the material before and after Exam 2.

You must take the final exam during the university-scheduled time (see Schedule).

Notes on demonstration worksheets: You will be given instructions in class on how to fill in the worksheets. Please submit them to me in class before December 1. Be sure to write your name at the top and staple them together.

Notes on term paper: You will be given detailed instructions on how to write and format your term paper. Please submit in class before December 1.

“Curving” policy. Curves may be applied to exams. Students who achieve over 100% in Exams 1 or 2 due to curving will have those points "rolled over" to the next exam. There will be no appeals for a round up if your score does not fulfil this criterion. For example, if you score 89.499% in an exam, you will *not* qualify for the round up to an A grade. A line has to be drawn somewhere.

Extra credit: There is no extra credit in this class.

Round up: If your final score is between e.g., 89.5 and 90 your score will be upgraded to 90 (same for other grade boundaries). There will not be rounding up in individual assignments/exams.

Make-up Exams and Assignments

Make-up policy: Make-up exams for Exams 1 and 2 (i.e., doing this exam on another day) can be provided for valid, documented reasons. If you require a make-up please contact me, in advance, to seek an excused absence, or as soon as possible after the exam in the case of an emergency. You **must** attend the Final Exam at the scheduled time.

You may miss up to one demonstration (your score for the missing assignment will be dropped as per the drop statement above). However, in this case your lowest scoring submitted assignment will not be dropped.

If you miss more than one **demonstration** you must request an alternative make-up assignment for each one that you miss. You must make this request shortly before or after the date of the demonstration and your request must be supported by documentation of a valid makeup reason. I will not be able to provide makeup arrangements for missed demonstrations more than 3 days after the demonstration was missed, except in the case of legitimate documented emergencies or other extenuating cases. Alternative make up assignments for a demonstration will involve reading a scientific paper and writing a 500 word summary for it.

Per university policy, you are allowed to submit make-up work (or an equivalent, alternate assignment) for authorized university-sponsored activities, religious observances, or legal obligations (such as jury duty). If this participation conflicts with your course assignments, I will offer a reasonable opportunity for you to complete missed assignments and/or exams. The make-up assignment and grading scale will be equivalent to the missed assignment and its grading scale. In the case of an authorized university activity, it is your responsibility to show me a signed copy of the Program Verification Form for which you will be absent, prior to the class in which the absence occurs. In any of these cases, please contact me ahead of time to notify me of upcoming needs.

Correspondences

Communication: All e-mail correspondence should be via UCF email addresses or through Webcourses. **By FERPA regulation emails from third-party email addresses cannot be responded to.** Please place the course number and a brief subject description in the email title line. Please make sure you full name at the end of the email.

Please keep your correspondences professional. Begin them appropriately: e.g. “Dear Dr. Crampton”, “Dear Dr. C”, or Good Morning “Dr. C”. Likewise conclude your email with a polite ending, along with your full name. Please make no unreasonable demands on a professor’s time and bear in mind that there are many other students in the class that deserve equal attention from their professor.

Please do not use my office telephone or voice mail for correspondence. I am only infrequently in my office, and I do not check my voicemail frequently. You will get a *much* more rapid response by email.

Office Hours

Office hours will be conducted in my office (Bio 402A). Sometimes I will move office hours to my lab (Bio 106). If I do, I will simply post a note on my office door directing you to come downstairs to my lab. Conversations may be recorded in office hours for quality control.

Academic engagement quiz

All instructors/faculty are required to document student academic activity at the beginning of each course. In order to document that you began this course, please complete the quiz labeled 'Academic Engagement Quiz (under Quizzes) by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid.

University Services and Resources:

Academic Services and Resources

A list of available academic support and learning services is available at [UCF Student ServicesLinks to an external site.](#). Click on "Academic Support and Learning Services" on the right-hand side to filter.

Non-Academic Services and Resources

A list of non-academic support and services is also available at [UCF Student ServicesLinks to an external site.](#). Click on "Support" on the right-hand side to filter.

If you are a UCF Online student, please consult the [UCF Online Student GuidelinesLinks to an external site.](#) for more information about your access to non-academic services.

Policy Statements

UCF COVID-19 policy

See latest COVID-19 statement at the link below, and please follow all updates to official university policy.

<https://www.ucf.edu/coronavirus/covid-19-updates-the-next-phase/>

UCF statement: accessibility and disability

Accommodations may need to be added or adjusted should this course shift from an on-campus to a remote format. Students with disabilities should speak with their instructor and should contact sas@ucf.edu to discuss specific accommodations for this or other courses.

UCF statement on in-class recordings

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording classroom activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), clinical presentations such as patient history, academic exercises

involving student participation, test or examination administrations, field trips, and private conversations is prohibited. Recordings may not be used as a substitute for class participation and class attendance and **may not be published or shared without the written consent of the faculty member**. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct as described in the Golden Rule.

Academic Integrity

Students should familiarize themselves with UCF's [Rules of Conduct \(Links to an external site\)](#). According to Section 1, "Academic Misconduct," students are prohibited from engaging in:

- *Unauthorized assistance*: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
- *Communication to another through written, visual, electronic, or oral means*: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
- *Commercial Use of Academic Material*: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
- *Falsifying or misrepresenting* the student's own academic work.
- *Plagiarism*: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- *Multiple Submissions*: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- *Helping another violate* academic behavior standards.

For more information about Academic Integrity, students may consult [The Center for Academic Integrity \(Links to an external site\)](#).

For more information about plagiarism and misuse of sources, see "[Defining and Avoiding Plagiarism: The WPA Statement on Best Practices \(Links to an external site\)](#)".

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, [The Golden Rule \(Links to an external site\)](#). UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension, or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more

information about the Z Designation, see <http://goldenrule.sdes.ucf.edu/zgrade> ([Links to an external site.](#)).

Course Accessibility Statement

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with [Student Accessibility Services \(Links to an external site.\)](#) (Ferrell Commons 185, sas@ucf.edu, phone (407) 823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

Deployed Active-Duty Military Students

Students who are deployed active-duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

Copyright

This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download, or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Third-Party Software and FERPA

During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these could be required assignments, you need not make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identity-sensitive information. If you have any concerns about this, please contact your instructor.

Statement of diversity and inclusion

All participants in this class are expected to abide by the following statement, in the UCF Golden Rule: “UCF values diversity and inclusion of all in our community. Accordingly, discrimination on the basis of race, sex, national origin, religion, age, disability, marital status, or veteran’s status is prohibited by federal and/or state law. It is our policy to treat all people with dignity and

respect, without regard to race, creed, color, national origin, religion, sex, age, disability, marital status, sexual orientation, gender expression, gender identity, veteran status, or political opinions and affiliations.”

Campus safety statement

Emergencies on campus are rare, but if one should arise in our class, we will all need to work together. Everyone should be aware of the surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Please make a note of the guide’s physical location and consider reviewing the online version at http://emergency.ucf.edu/emergency_guide.html.
- Familiarize yourself with evacuation routes from each of your classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, we may need to access a first aid kit or AED (Automated External Defibrillator). To learn where those items are located in this building, see <https://ehs.ucf.edu/automated-external-defibrillator-aed-locations> (click on link from menu on left).

Business Administration 1: AED locations: 2nd floor near elevator, 4th floor near elevator

- To stay informed about emergency situations, sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on “Student Self Service” located on the left side of the screen in the tool bar, scroll down to the blue “Personal Information” heading on your Student Center screen, click on “UCF Alert”, fill out the information, including your e-mail address, cell phone number, and cell phone provider, click “Apply” to save the changes, and then click “OK.”
- If you have a special need related to emergency situations, please speak with me during office hours.
- Consider viewing this video (<https://youtu.be/NIKYajEx4pk>) about how to manage an active shooter situation on campus or elsewhere.

Class policy changes

I reserve the right to change the syllabus and class schedule. These changes will be announced in lectures and via Webcourses.