

**AQUATIC ECOLOGY****PCB 3442****3 credits, Spring 2020****Course information**

Class meeting times: **12:00 – 1:15 pm (Tue, Thu)** (BAI - 0147, Main Campus)

Modality: P (face to face instruction)

Class components: Lecture required

This class is a split-level undergraduate (PCB 4932 ST) and graduate (BSC 5937 ST) class.

All demonstrations will be conducted during class times.

**Instructor contact information and office hours**

Dr. Will Crampton                      Office: BIO 402A (4<sup>th</sup> Floor, Biology Department)

Email: [crampton@ucf.edu](mailto:crampton@ucf.edu)              Office Hours: **2:00-5:00 pm (Tue) (all are welcome!)**

**Course prerequisites**

Permission of course instructor

**Course description**

Aquatic Ecology PCB-3442 is a general introduction to freshwater ecology. The course covers (in various amounts of detail): freshwater systems of the world, properties of water, biodiversity and diversification of freshwater organisms, adaptations to aquatic life, physiology, sensory ecology, trophic ecology, and conservation and management.

**Course objectives and format**

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 demonstrations held on campus during class times (locations to be announced via Webcourses ahead of time) in semi-natural aquatic habitats. An interactive experiment with *live* electric fish (weakly electric gymnotiforms from South America).

**Student learning outcomes**

- Learn core concepts in aquatic ecology
- 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 Activities**

**Lectures:** Questions are encouraged at any time. Lecture notes will be posted in PowerPoint form *after* the lectures (typically the same day).

**Demonstrations:** Seven demonstrations will be held. The class will be divided into two and two activities conducted concurrently. You will be assigned to a demonstration group early in the semester and will need to stay in the same group. Write notes on during demonstrations, including web resources (including audio visual presentations). Keep notes on handouts or on blank sheets of paper (letter size) and use a pencil if possible. Maximum 2 pages per demonstration. Summarize what

you learned. Staple together your demonstration notes, put your name at the top, and hand in near the end of semester (see Schedule for deadline date).

**Term Paper:** You will pick an aquatic ecology-related subject of interest to you and conduct a **literature-based review**. Do not replicate your term papers with material from any other class.

**Term paper instructions:**

1. Submit a preliminary title (maximum 20 words) and preliminary abstract (maximum 200 words) **for pre-approval**. Submit any time in semester up to deadline on March 7.
2. Once your title/abstract are approved. Use library and online resources. We will discuss strategies for writing your term paper in class. Demonstration 1 will introduce useful resources.
3. Type your term paper, print, and submit to me in class (**not by email**) before the deadline listed in the Schedule below.

Instructions:

- Minimum **6** pages. Maximum **10** pages (including abstract and figures but excluding references and tables).

- Use 12-point Times New Roman. Single spaced.

- Arrange in the order:

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

Abstract (also on cover page) (150 words minimum, 250 words maximum). This can be different to your preliminary abstract.

Background.

Then divide your text into headings of your own choice (with no more than 3 levels of e.g. 1., 1.1., 1.1.i.) and have a summary. Then add References, and finally figures.

Summary

References

Tables

- You are allowed up to six figures. 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.
- You are allowed up to 4 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 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
- We will discuss how to find and cite bibliographic information in class.
- More information will be provided in class about term papers and formatting.

<b>Assessment and grading procedures</b>
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**Grading Scale:**

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

**Grading breakdown:**

Exam 1 = 25% (multiple choice)

Exam 2 = 25% (multiple choice)

Term paper = 20%

Notes on demonstrations = 5%

Final exam = 25% (multiple choice, to be taken at the appointed time, no makeups)

**Scantron sheets for exams:** I will provide them for you at the time of each exam.

**“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 next exam.

**Extra credit:** No extra credit.

**Round up:** If you score between e.g. 89.5 and 90 your score will be upgraded to 90 (same for other grade boundaries).

### **Course Materials and Resources**

There is No text book.

Class website: Webcourses (<https://webcourses.ucf.edu>)

Power point lectures, additional resources, and announcements will be posted on Webcourses

### **Course policies and other information**

**Make-up policy:** Make-up exams for Exams 1 and 2 can be provided only for valid, documented reasons (e.g. illness, mandatory religious observance, or authorized university events). Please contact me in advance as soon as possible if you require a make-up. There will be no make-ups for missed demonstrations. However, up to two in-class activities per semester will be automatically dropped. If you hand in 5 sets of adequately-written demonstration notes you will receive full marks.

**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 put your name at the end of the email.

**General class policies:** All members of the class must abide by the UCF Golden Rules of academic conduct and honesty (see statements of Academic integrity, Accessibility, Safety, and Accommodations for active-duty military students, below).

**Office hours:** I encourage everybody to use office hours as a resource to discuss any part of the course, and your academic progress. If you are unable to come to the scheduled office hours, please contact me to seek an out-of-hours appointment.

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

### **Academic integrity**

Students must familiarize themselves with [UCF's Rules of Conduct](#), which states that students are prohibited from engaging in academic misconduct, such as

- 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 not limited to class notes, Instructor's power points, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.
- Falsifying or misrepresenting the student's own academic work.
- Plagiarism: Whereby another's work is used or appropriated 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.
- Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.

#### *Responses to Academic Dishonesty, Plagiarism, or Cheating*

UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. 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>. For more information about UCF's Rules of Conduct, see <http://www.osc.sdes.ucf.edu/>.

#### **Course accessibility statement**

It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me to discuss reasonable options or adjustments. You may also contact SAS (Ferrell Commons 185; 407-823-2371; sas@ucf.edu) to talk about academic accommodations.

#### **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](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 <http://www.ehs.ucf.edu/AEDlocations-UCF> (click on link from menu on left).
- To stay informed about emergency situations, sign up to receive UCF text alerts by going to [my.ucf.edu](http://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.

#### **Statement of accommodations for active-duty military students**

If you are a deployed active duty military student and feel that you may need a special accommodation due to that unique status, please contact me to discuss your circumstances.

**Preliminary Schedule:**Preliminary Schedule: PCB3442: Aquatic Ecology: Spring 2020

Dr. Will Crampton (Biology 402A)

crampton@ucf.edu

**CLASS HOURS:** 12-115 pm- Tuesdays and Thursdays (BA1 0147)**OFFICE HOURS:** 2-5 pm **Tuesdays** (Bio 402A)

Month	Date	Day	Lecture	Subject	Deadlines
Week 1	7-Jan	Tue		<i>Introduction &amp; Syllabus</i>	
	9-Jan	Thu	<b>1</b>	Life and the properties of water 1	
Week 2	14-Jan	Tue	<b>2</b>	Life and the properties of water 2	
	16-Jan	Thu	<b>3</b>	Life and the properties of water 3	
Week 3	21-Jan	Tue		<b>Demonstration 1/2</b>	
	23-Jan	Thu		<b>Demonstration 2/3</b>	
Week 4	28-Jan	Tue	<b>4</b>	Life and the properties of water 4	
	30-Jan	Thu	<b>5</b>	Aquatic viruses	
Week 5	4-Feb	Tue	<b>6</b>	Aquatic prokaryotes	
	6-Feb	Thu		<b>EXAM 1</b>	
Week 6	11-Feb	Tue	<b>7</b>	Aquatic protists and fungi	
	13-Feb	Thu	<b>8</b>	Aquatic plants	
Week 7	18-Feb	Tue		<b>Demonstration 3/4</b>	
	20-Feb	Thu		<b>Demonstration 3/4</b>	
Week 8	25-Feb	Tue	<b>9</b>	Aquatic animals I	
	27-Feb	Thu	<b>10</b>	Aquatic animals II	
Week 9	3-Mar	Tue	<b>11</b>	Aquatic Water bodies	
	5-Mar	Thu	<b>12</b>	Diversification in aquatic systems I	<b>Term paper abstract due</b>
				SPRING BREAK	
				SPRING BREAK	
Week 10	17-Mar	Tue	<b>13</b>	Diversification in aquatic systems II	
	19-Mar	Thu		<b>EXAM 2</b>	
Week 11	24-Mar	Tue	<b>14</b>	Diversification in aquatic systems III	
	26-Mar	Thu		<i>in class assignment</i>	
Week 12	31-Mar	Tue	<b>16</b>	Diversification in aquatic systems IV	
	2-Apr	Thu	<b>17</b>	Aquatic physiology I	
Week 13	7-Apr	Tue		<b>Demonstration 6</b>	
	9-Apr	Thu		<b>Demonstration 7</b>	
Week 14	14-Apr	Tue	<b>18</b>	Aquatic physiology II	<b>Term paper and demo notes due</b>
	16-Apr	Thu	<b>19</b>	Conservation biology and conclusion	
Week 15	23-Apr	Thu		<b>Exam 3 (Final) 1000-1250 (BA1 0147)</b>	