

**Advanced Marine Biology: BSC 4312C-RI  
Spring 2024**

**Lecture:** Tuesday and Thursdays from noon to 1:15 PM in Biology Building, Room 212

**Laboratory:** Saturdays in Field Building classroom (Building 92, 12724 Ara Drive, Orlando, FL 32826) or off-campus

**Instructor:** Dr. Linda Walters

**Office:** Biology 401C    **Office Phone:** 407-823-2148    **E-mail:** linda.walters@ucf.edu

**Family Cell Phone:** 407-443-6943 (husband Paul answers most of the time)

**Web Site for Course:** BSC 4312 on Webcourses. Site will house syllabus, course notes, grades, announcements, etc. My lab Facebook site (Coastal and Estuarine Ecology Lab) will house class photos.

**Office Hours:** Tuesdays and Thursdays from 1:15 – 3:45 PM, or by appointment. If University business requires me to miss listed office hours, please contact me and we can schedule to meet at another time. Please make an appointment to meet with me via email, even if scheduling during office hours, to ensure I am ready and available to answer your questions.

**Graduate Teaching Assistant:** Katherine Harris

**Office:** Biology 410    **Email:** katherine.harris2@ucf.edu

**Office Hours:** Tuesday/Thursdays from 9:45 – 11:45 AM, Wednesdays from 2:30 – 3:30 PM.

Please schedule with Katherine via email before showing up for office hours to ensure she is available. Katherine will assist with all class-related questions, transportation, grading, and research projects.

**Undergraduate Teaching Assistant for Labs:** Jordyn Collis

**Email:** jordyn.collis@ucf.edu

Jordyn will assist with field and laboratory research projects.

*This section of **BSC 4312C** is a [Research Intensive \(RI\) course](#). This designation will be noted on your transcripts. Research-Intensive is one of the four High Impact Practice course designations at UCF, along with Service Learning, Integrative Learning, and Global Learning. High Impact Practice courses are some of the most challenging and rewarding at UCF. You will actively engage in research processes and a significant portion of your grade will be derived from course-related project(s) based on original research and/or creative scholarship.*

*If you have any questions about this designation or HIP designations at UCF, please contact [hip@ucf.edu](mailto:hip@ucf.edu)*

**Course Objectives: Focus on the High Impact Practices (HIP) of “Research Intensive” to improve marine biology knowledge and career readiness/success.**

- 1) Enhance comprehension of important topics in marine biology, with a focus on current crises in our region.
- 2) Improve career readiness by focused efforts on curriculum vitae (both the document text and increasing the number of entries in your document).
- 3) Hands-on research experiences focused on field marine biology from initiation through completion.

- 4) Improved science presentation skills through poster presentations at Indian River Lagoon Symposium in February (Fort Pierce, FL – vans provided) and the on-campus UCF Student Scholars Symposium (SSS) in late March and/or the HIP Showcase in April. An extra credit conference for undergraduates called SHORE (Sharing Our Research with Everyone) will be an option in April in New Smyrna Beach, FL).
- 5) Improved writing skills by preparing draft manuscripts for the UCF Undergraduate Research Journal or Wikipedia entry.
- 6) Improve knowledge of marine biodiversity in Florida.

**Required Materials (Important: All books are library-sourced FREE textbooks! Go to Research Guide in Webcourses for this class for instructions through Adobe Digital Additions):**

- 1) *Vaquita: Science, Politics, and Crime in the Sea of Cortez*. Bessesen, Brooke. Island Press. 2018. ISBN: 9781610919319.
- 2) *A Poison Like No Other: How Microplastics Corrupted Our Planet and Our Bodies*. Simon, Matt. Island Press. 2022. ISBN 9781642832358.

**Recommended Materials:**

- 1) PowerPoint slides will be available on Webcourses.

**Academic Honesty:**

Please understand that I expect you to completely abide by the UCF Golden Rule (<http://goldenrule.sdes.ucf.edu>). Breaking the Golden Rule in **any** way, including cheating or intent to cheat on quizzes, or using materials borrowed from students from past classes, will result in an ZF in the course and your name will be immediately submitted to the UCF Disciplinary Action Committee. No plagiarizing, no copying on reports or other written/photo assignments, no exceptions. Turnitin.com or I-authenticate may be used at any time during the semester at my discretion. Use of AI-created documents will be permitted in some assignments and student must include acknowledgement of the use of AI.

**Classroom Conduct and Attitude:**

I expect everyone will regularly participate in this class in a positive way. Disrupting the class, arriving late to class, rude behavior to the instructor or your colleagues, sleeping in class or during labs, cell phones ringing during class or speaking on a phone/texting/working on non-class materials on any electronic device during lecture/lab, or disobeying any class rules will cause you to lose class participation points at my discretion. If the disruption is excessive, the Biology Department Chair will be brought in to assist with the situation. Offering to drive vans is a positive and you will receive extra credit points for your assistance when needed. **Potential van drivers MUST complete a driving form at least 3 working days before driving UCF vehicles.** Form is available at: <https://sciences.ucf.edu/biology/wp-content/uploads/sites/2/2017/12/Driver-Registration-Form.pdf>

**Grading:**

There will be no traditional hour exams or final exam in this class. There are 200 points for the semester with point distributions listed below. Grades for the semester will be awarded using the following +/- scale: A+ (100% or higher), A (92-99%), A- (90-91%), B+ (88-89%), B (82-87%),

B- (80-81%), C+ (78-79%), C (72-77%), C- (70-71%), D+ (68-69%), D (62-67%), D- (60-61%), < 60% = F. If your point total rounds out to 0.5 or higher, you will receive the next higher grade. For example, an 89.45 = A-. There will be extra credit opportunities, but no additional curving of grades. If you decide to drop this course, please remember to officially withdrawal from the class before 11:59 PM on Friday, March 29, 2024. There are no NC or WP grades in this class. Assignments in class can only be made up if the absence is excused by Dr. Walters (written documentation required from medical, police, university activity). Please do not assume your excuse will be counted as “excused” if not medical emergency without PRIOR confirmation. Grades will be available in class, on Webcourses’ and/or from instructor as soon as possible after assignments submitted. Late assignments will be graded as follows (Saturdays included, Sundays excluded): deduct 50% for up to 24 hours late from the start of the class in which the assignment was due and deduct 75% if 24-48 hr late. There will be no credit if submitted more than 48 hr late. If you have approval from Student Support Services to have extra time on assignments/quizzes, please discuss with me the first week of the semester so we can work out the best arrangement for you.

### **Participation Grade:**

To promote dialogue and class engagement, 10% of your final grade (20 points) is based on participation. This grade is not based on simply showing up for class/lab and being distracted by your electronic devices, doing homework for other classes, or sitting/sleeping passively for 75 minutes. Doing these will get you 0 participation points. If you show up to class/lab, participate each day in a meaningful way, then you will receive all these points. If you occasionally participate, you will receive partial credit for participation. The GTA will track both engagement and participation. If you have any medical/social conditions that prevent you from fully participating in class discussions, these must be discussed with Dr. Walters within the first week of the semester so accommodations can be made.

### **Extra Credit:**

Extra credit opportunities will occur both in class and outside of instruction hours. These points will be added on to your point total before calculating the final percentage grade. In lecture, extra credit opportunities may arise via bonus quiz questions (point values to be determined). Helping with field/lab research or substantial marine-oriented community events outside of class time will earn you one point for each hour worked. Travel time from UCF main campus is included if the work is off-campus. Going to marine-oriented scheduled seminars in Biology or other related events on campus will additionally earn you 1 point on each occurrence. The maximum number of extra points for efforts outside of quizzes for the semester = 20 points (10% of total points available). If the event is not run by Dr. Walters, you must send her a selfie of you plus event leader within 7 days of the event to get extra credit.

### **Point Values for All Assignments (due dates):**

Please note that all assignments are due at the start of class/lab on the date listed. Late assignments will be graded as described above.

### **In-Class Participation**

**20 points (10% of grade)**

Described above under participation grade.

### **In-Class Quizzes**

**40 points (20% of grade)**

Expect there to be short in-class quizzes associated with: 1) class readings, 2) flora/fauna biodiversity identifications, and 3) class debates on current topics that the class chooses. These will occur each Tuesday of the semester and you will know the quiz focus the prior week.

### **Curriculum Vitae**

**20 points (10% of grade)**

Every scientist needs to have their updated curriculum vita (cv) ready to share at all times. Through peer review and instructor feedback, we will strive to improve everyone's cv to make you all more marketable. Likewise, everyone should have developed a professional relationship with one or more faculty members who you are confident will write you a reference letter when needed. To expedite this, you need to be able to provide them with is your updated cv when asked. We will work on your cv in class – with deadlines at the beginning and the end of semester.

**January 18:** Draft cv due for peer review in class. Please bring hardcopy to class.

**January 19-22 at noon:** Window for optional instructor/GTA/UTA feedback (no documents will be accepted after this time for critique).

**January 25:** Final cv due for grade.

**April 25 at 10 AM:** Final, edited and updated cv due to Dr. Walters.

### **Group Research Project 1** (Microplastics in Rainwater “Plastic Rain”) **50 points (25% of grade)**

This project will involve collecting samples in field, processing samples for microplastics in lab, data entry, data analysis, and creating poster to present at 2 or 3 showcases (IRL Symposium, SSS or HIP Showcase, optional: SHORE Symposium on 4/11/24). Abstract already submitted to the Indian River Lagoon Symposium (abstract deadline was 11/29/23). Symposium is Thursday, February 22 in Fort Pierce, FL, and class will be presenting “Plastic Rain” poster at this symposium. If you want to attend in person (highly encouraged), registration (\$25) that includes lunch and evening appetizers is due by January 19 to: [FAU Harbor Branch - Conferences](#). UCF is providing vans to venue. If cost is a barrier, please talk to me asap. Entrance is free after 4 PM for the dedicated poster session, but you need to be on the invite list to be able to access the building. You also need your own transportation for this alternative.

Second abstract on this topic will be developed by class for the UCF Student Scholar Research Symposium (SSS) that is due on January 29 **OR** for the HIP Showcase that is due mid-semester (TBD). SSS Showcase dates are March 26-27 (f-2-f) with the final poster due to SSS on March 20, 2024 (during spring break). HIP Showcase dates are April 15-19 (virtual) on UCF STARS with in-person event on April 16. For the HIP Showcase, you must submit a poster and a video. Poster will be due to me one week before events for grading. All students will submit a research Reflection and Participation Evaluation from self, professor, GTA and your peers (individual grades).

### **Group Research Project 2** (Mangrove Incursions on Oyster Reefs) **50 points (25% of grade)**

Abstract to be developed by class for the HIP Showcase and optional SHORE Showcase (dates as above).

Poster due to me for HIP Showcase one week before event (group grade).

Reflection (individual grade).

Individual Participation Evaluation from self, professor, GTA and your peers (individual grades).

### **Wikipedia Entries or Manuscripts for Planned Submission to the UCF Undergraduate Research Journal**

**20 points (10% of grade)**

Individuals will select either to submit a Wikipedia entry or compose a manuscript associated with each research project. For all options, the format and standards must be met. Multiple drafts can be submitted and the deadline to submit draft to be in the start of our final exam period on Thursday, April 25 at 10 AM. Group projects frequently become problematic at the end of every semester, so as a group, we will make a plan to hopefully avoid this.

There will be a group grade for the document and individual participation grades from self, professor, GTA and peers. Must be submitted at start of our final exam period on Thursday, April 25 at 10 AM.

Please note that I will help teams who want to submit these manuscripts after semester ends, but I cannot require, nor will I (or Katherine) nag you to do so. There is an expiration date for graduating seniors of 12 months post-graduation to submit to the journal.

### **Tentative Lecture Schedule (subject to change):**

Please note that the book discussions will be ongoing throughout the semester. We will start each discussion where we left off the previous date. Students will be provided with new chapters to read for each class. Our first book will be, "*A Poison Like No Other*".

January 9: Syllabus, Introduction to course.

January 11: Library help, Discussion of how to improve your curriculum vitae, How to get a great reference letter, etc. **Drop deadline by 11:59 PM.**

**FRIDAY, January 12: Add deadline by 11:59 PM.**

January 16: First quiz, class discussion.

January 18: Peer review of draft cv, class discussion.

January 23: Class discussion.

January 25: Submit final cv to Dr. Walters for grade by start of class. Class discussion.

January 30: Annie Roddenberry, FL Fish and Wildlife Conservation Commission to visit class.

**MONDAY, January 29: Abstracts due for SSS Research Showcase by 11:59 PM**

February 1: Class discussion.

February 6: Class discussion.

February 8: Class discussion.

February 13: Class discussion.

February 15: Class discussion.

February 20: Graded practice of poster content in class.

**THURSDAY, February 22: Indian River Lagoon Conference in Fort Pierce, FL – all day, no class this day. Space in van for class members to attend if interested in presenting class poster. Rest of class will live-stream during class hours.**

February 27: Class discussion.

February 29: Class discussion.

March 5: Class discussion.

March 7: Class discussion.

March 12: Class discussion.

March 14: Class discussion.

**March 18-23: No class, Spring Break!**

**TUESDAY, March 26: Class (required) will occur at the UCF Student Scholar Symposium in Student Union.**

March 28: Class discussion.

April 2: Class discussion, Begin crafting manuscripts/Wikipedia entries.

April 4: Class discussion.

April 9: Class discussion.

**THURSDAY, April 11: OPTIONAL SHORE Conference in New Smyrna Beach, FL. Class will be held this day for those not attending.**

**TUESDAY, April 16: UCF HIP SHOWCASE in AM this day (time: 10 AM - noon). No class afterwards. Virtual Showcase runs from April 15 – 19.**

April 18: Last class!

**April 25 (Thursday of finals week): Submit final deliverables by 10 AM.**

**Laboratory:** Your laboratory grade is integrated into your final course grade; it is not a separate grade. Closed-toe shoes and sufficient warm clothes are required for all wet labs. Please expect to get wet and muddy in the field. Additional materials needed for field labs will be discussed as appropriate.

**Tentative Laboratory Schedule (subject to change, especially based on weather):**

All dates listed are Saturdays from 9 AM – noon unless otherwise stated. All labs are required if they occur within this time window. Labs that run longer than this are optional but must be discussed with Dr. Walters prior to the start of the lab to determine an alternative assignment.

**January 13:** Field lab goals: learn to make oyster restoration volcanoes, collect *Sporobolus* (a.k.a. *Spartina*) plugs for shoreline restoration while learning mangrove biodiversity, and collect water samples for microplastics processing. Depart from outside of the Biology Field Building at 7:30 AM or meet at Marine Discovery Center parking lot at 8:45 AM. We will depart MDC by 11 AM to return to campus by noon. Wear old clothes that may get wet (to your knees), muddy, or cement-y. Must have shoes with good soles to wear in the water. Recommend bringing dry shoes and full water bottle.

**January 20:** Microplastics training at the Biology Field Building lot (building 92). 9 AM – noon. Must wear only natural fibers and lab coat if you have one.

**January 27:** Process microplastics water samples at Biology Field Building for minimum of 3 hours per person. Time ranges from 8 AM – 12:30 PM.

**February 3:** Process microplastics water samples at Biology Field Building for minimum of 3 hours per person. Time ranges from 8 AM – 12:30 PM.

**February 10:** Prepare poster on microplastics for IRL Symposium. We will work at the Biology Field Building from 9 AM – ~noon.

**February 17:** Florida Institute of Oceanography research cruise on the RV Hogarth. We will depart from the Biology Field Building lot (building 92) at 6:30 AM and return by ~5:30 PM. Lunch provided, van drivers needed. This will be day to learn Gulf of Mexico fish and invertebrate biodiversity (bring camera).

**February 24:** No lab this weekend.

**March 2 (low tide: 9:12 AM):** Everyone will assist in the field either today or March 9 with our second research project. 10 students will collect mangrove data on Mosquito Lagoon oyster reefs. Depart UCF at 6:30 AM and return at ~1:30 PM. Van provided if driver available. Katherine will be driving truck to launch boat and truck can hold 2 passengers.

**March 9 (low tide: 3:30 PM, negative tide):** Everyone will assist in the field today or March 2 with our second research project. 10 students will collect mangrove data on Mosquito Lagoon oyster reefs. Depart UCF at 10 AM and return at ~6 PM. Van provided if driver available. Katherine will be driving truck to launch boat and truck can hold 2 passengers.

**March 16: (low tide: 10:25 AM):** Everyone will assist in the field a second time for our second research project either today or March 30. 10 students will collect mangrove data on Mosquito Lagoon oyster reefs after deploying oyster restoration patties on a reef. Depart UCF at 7:00 AM and return at ~2:00 PM. Van provided if driver available. Katherine will be driving truck to launch boat and truck can hold 2 passengers.

**March 23: Spring break, no lab.**

**March 30 (low tide: 8:52 AM):** Everyone will assist in the field a second time for our second research project either today or March 16. 10 students will collect mangrove data on Mosquito Lagoon oyster reefs after deploying oyster restoration patties on a reef. Depart UCF at 6:30 AM and return at ~1:30 PM. Van provided if driver available. Katherine will be driving truck to launch boat and truck can hold 2 passengers.

**April 6:** Entire class will work on second poster and HIP video presentation at Biology Field Building (9 AM – noon).

**April 13:** No lab, time to work on manuscripts/Wikipedia entries in teams.

**EXTRA CREDIT OPPORTUNITIES (more to be added over time)** To sign up, please contact Dr. Walters via email ([linda.walters@ucf.edu](mailto:linda.walters@ucf.edu)). For off-campus efforts, you need to organize your own transportation. Car-pooling is highly recommended. All sign-ups are first-come, first-served. Please only sign up if you know you are available on that date; you will be removed from future dates if you bail on the team. To receive extra credit for events, you must

take a selfie with event leader at event and send to Dr. Walters within 1 week of event. Travel time (from main campus) counts toward your hours and Dr. Walters knows all distances to events.

## **JANUARY 2024**

Friday, 1/12/24: Oyster restoration monitoring in Cocoa Beach. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Monday, 1/15/24 (MLK Day of Service): Make oyster restoration rings on campus. Start: 9 AM. Finish: noon. All welcome.

Tuesday, 1/16/24: Plant *Sporobolus* on campus. Start 9:00 AM. Finish: 11:00 AM. All welcome.

Wednesday, 1/17/24: Oyster reef monitoring in CANA. Start time: 7:30 AM. Finish: ~1 PM.

Room for 3 people.

Tuesday, 1/23/24: Weeding mangrove garden on campus. Start: 9:00 AM. Finish: 11:00 AM. All welcome.

Wednesday, 1/24/24: Oyster restoration monitoring in Eau Gallie. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Friday, 1/26/24: Oyster restoration monitoring in Eau Gallie. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Sunday, 1/28/24: Make oyster restoration rings on campus. Start: 9 AM. Finish: noon. All welcome.

## **FEBRUARY**

Sunday, 2/4/24: Make oyster restoration rings on campus. Start: 9 AM. Finish: noon. All welcome.

Tuesday, 2/6/24: Weeding mangrove garden on campus. Start: 9:00 AM. Finish: 11:00 AM. All welcome.

Wednesday, 2/7/24: Oyster restoration monitoring in Palm Bay. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Sunday, 2/11/24: Make oyster restoration rings on campus. Start: 9 AM. Finish: noon. All welcome.

Wednesday, 2/14/24: Stage for Living Shoreline Deployment in CANA. Start: 9 AM. Finish: 1 PM.

Sunday, 2/18/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Monday, 2/19/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Tuesday, 2/20/24: Weeding mangrove garden on campus. Start: 9:00 AM. Finish: 11:00 AM. All welcome.

## **MARCH**

Friday, 3/1/24: Stage for Living Shoreline Deployment in CANA. Start: 9 AM. Finish: 1 PM.

Sunday, 3/3/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Monday, 3/4/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Tuesday, 3/5/24: Weeding mangrove garden on campus. Start: 9:00 AM. Finish: 11:00 AM. All welcome.

Friday, 3/8/24: Stage for Living Shoreline Deployment in CANA. Start: 9 AM. Finish: 1 PM.

Sunday, 3/10/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Monday, 3/11/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Tuesday, 3/12/24: Weeding mangrove garden on campus. Start: 9:00 AM. Finish: 11:00 AM. All welcome.

Monday, 3/18/24: Make oyster restoration rings on campus. Start: 9 AM. Finish: noon. All welcome.

## **APRIL**

Monday, 4/1/24: Oyster restoration monitoring in Eau Gallie. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Wednesday, 4/3/24: Oyster restoration monitoring in Eau Gallie. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

Friday, 4/5/24: Stage for Living Shoreline Deployment in CANA. Start: 9 AM. Finish: 1 PM.

Sunday, 4/7/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Monday, 4/8/24: Living Shoreline Deployment in CANA. Start: 9 AM. Finish: noon.

Wednesday, 4/17/24: Oyster restoration monitoring in Cocoa Beach. Start time: 8 AM. Finish: ~3 PM. Room for 5 people.

### **Assisting at Marine Discovery Center (New Smyrna Beach) to make restoration units**

(volcanoes, BESE oyster mats): From MDC staff: We follow a Monday, Wednesday, Friday schedule, in addition to the 1st and 3rd Saturday of the month. Students who wish to participate must RSVP on our website by clicking on the specific event ([marinediscoverycenter.org/mdc-news/calendar/](http://marinediscoverycenter.org/mdc-news/calendar/)). All events run from 9 AM-12 noon.

#### January

8, 10, 12, 15, 17, 19, 20, 22, 24, 26, 29, 31

#### February

3, 5, 7, 9, 12, 14, 16, 17, 19, 21, 23, 26, 28

#### March

1, 2, 4, 6, 8, 11, 13, 15, 16, 18, 20, 22, 25, 27, 29